ALSO IN OUR NEWS SECTION
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- Face-off: Execs from IBM and Sun defend their positions on Java tools frameworks. PAGE 14

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FEBRUARY 16, 2004 • VOL. 38 • NO. 7 • $5/COPY

Earthquake Law Pushes Hospitals To Spend Big on IT

California measure leads to new data centers, IT upgrades; costs expected to be in the billions

BY BOB BREWIN AND PATRICK THIBODEAU

A California law that mandates earthquake-proof hospitals is sparking massive investments in IT infrastructure upgrades by health care companies in the state, starting with the hardening of data centers but also including the deployment of faster networks, wireless systems and other new technologies.

For example, Sacramento-based Sutter Health expects to spend the better part of $1 billion on technology upgrades at its 26 hospitals over the next 10 years as a result of the law, CIO John Hummel said last week. As the not-for-profit company rebuilds some of its facilities to comply with the law, it plans to invest in new bandwidth and storage capabilities in an effort to meet processing demands well into the future, he said.

Mark Zielanzinski, CIO at El Camino Hospital in Mountain View, said his facility is building a data center and demolishing its existing

Hospital IT, page 16

INSIDE
IT managers scramble to continue supporting users amid rebuilding.
PAGE 16

KNOWLEDGE CENTER PROJECT MANAGEMENT

THE Resourceful Project Manager

SPECIAL REPORT

The best IT project managers learn how to cope with business turmoil, take calculated risks and balance the need for speed with the need for discipline and quality. These aren't things you learn from a textbook. **STORIES BEGIN ON PAGE 35.**

ONLINE EXCLUSIVE Evaluate your project management office by taking this online quiz. QuickLink a4040 www.computerworld.com

ERP Users Bristle at Upgrade Pressure, Maintenance Costs

IT execs cite growing dissatisfaction, take steps to rein in vendors

BY MARC L. SONGINI

Many IT managers are becoming increasingly agitated by the ballooning costs of maintaining packaged business applications and the relentless efforts of software vendors to push them to upgrade their systems.

Five users of ERP software and other business applications said last week that they are being hit by increases in maintenance fees or feeling pressure from vendors to invest in upgrades. Their comments back up survey results released by consulting firm AMR Research Inc., which said in its report that IT managers are becoming "furious" about maintenance costs and upgrade policies.

A sizable number of the 202 survey respondents are starting to act on their anger, according to AMR analyst Jim Shepherd. For example, one-third said they plan to ask vendors to renegotiate their software maintenance contracts. And more than 20% indicated

Business Apps, page 53

38% [illegible] are tra[illegible] staffers [illegible] techni[illegible] support work on their ap[illegible]

SOURCE: AMR RESEARCH INC., BOSTON

Firms Brace for H-1B Hiring Freeze as Visa Limit Looms

Cutoff may improve job outlook for U.S. workers, or drive more offshoring

BY PATRICK THIBODEAU

U.S. immigration officials may discontinue this year's H-1B visa application process as early as this week, shutting down a key pipeline for companies that hire foreign high-tech workers.

Congress reduced the H-1B cap to 65,000 for the current federal fiscal year after having set it at 195,000 for each of the previous three years.

U.S. immigration officials haven't announced a definite cutoff date and are saying only that they expect the cap to be reached by the end of March. However, immigration experts and sources familiar with the U.S. Citizenship and Immigration Services visa process told *Computerworld* that the cap has already been reached and that they're bracing for the cutoff. That means new H-1B visas won't be available until the next fiscal year begins Oct. 1.

The imminent shutdown wasn't unexpected by immigration experts, since authorities

H-1B Freeze, page 53

INSIDE
Senate bill would require public disclosure of offshore plans.
PAGE 53

NEWSPAPER

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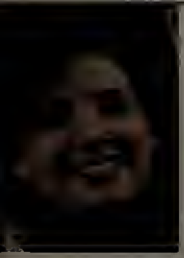
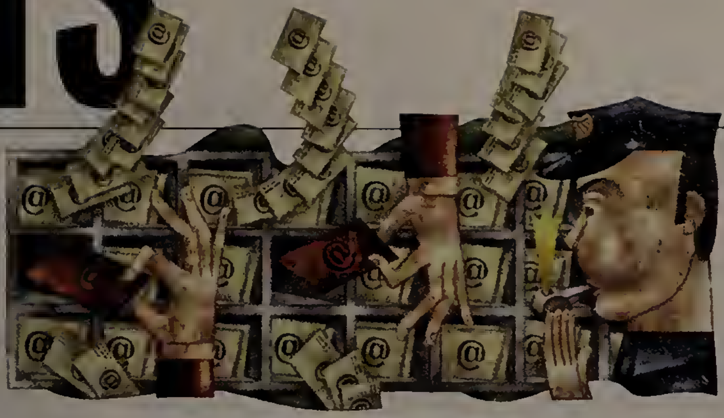


Innovation Democracy

In the Management section: Nancy Snyder (left) and others at Whirlpool are using IT to make innovation a core competency and build a supply chain of new ideas that turn into successful consumer products. **Page 31**



Retrieval Realities

In the Technology section: Regulations, capacity issues and litigation are forcing companies to spend IT dollars on e-mail archiving, but there are myriad choices to make, from policy options to in-house vs. outsourced systems. **Page 25**

NEWS

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6 **Cisco announces** a wireless LAN security protocol designed to block attacks that threaten its LEAP user authentication technology.

7 **A passenger-screening** system for airline security faces significant testing and deployment delays, the GAO says.

8 **VoIP could be regulated** as a public utility, concludes a California commission.

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12 **Networking and security** technology convergence finds support in an IBM/Cisco partnership and Juniper's acquisition of NetScreen.

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KNOWLEDGE CENTER PROJECT MANAGEMENT

The Resourceful Project Manager

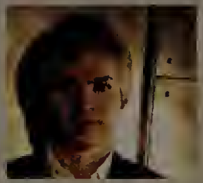
This special report examines the ways that IT project managers cope when business pressure builds to finish IT projects fast or executive sponsors leave the project in a lurch. Managers also share why learning by doing beats academic training any day.

SPECIAL REPORT

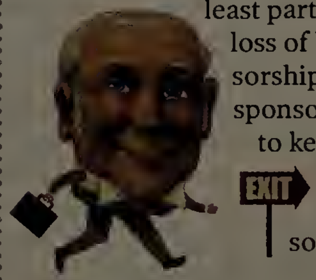
PACKAGE BEGINS ON PAGE 35.

36 Balancing Act. Project managers are learning to keep pace with business by using agile project management approaches. But they're not giving up adequate testing and quality assurance in exchange for speed. Also, leaders of project management offices say positioning their members as mentors and facilitators helps to ease tensions with frontline managers.

38 Careers: Forget project management by the book. The most valuable lessons are learned and then applied over and over on the job, according to veteran project leaders like John Kocon.



40 Surviving the Sponsor Exit. When projects fail, it's often at least partly because of a loss of business sponsorship or change in sponsors. Here's how to keep your project on track if your sponsor disappears.



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46 Opinion: The best project managers have a lot of fine traits. The most useful one might be their ability to circumvent the system, says columnist Mark Hall.

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Evaluate Your PMO Take this online quiz to see if your project management office is on the right track. **QuickLink a4040.**

10 Tips for a Web Redesign. In an excerpt from *Web Redesign: Workflow That Works*, Kelly Goto and Emily Cotler offer advice on a site redo. **QuickLink 43746**

How to Track Project Status. Johanna Rothman suggests breaking projects into small parts to monitor progress. **QuickLink 44682**

Plan for Committed Action. Involve your team in creating your project plan, advises Esther Derby. **QuickLink 44679**

AT DEADLINE

Windows Code Is Posted on Internet

Microsoft Corp. confirmed that some of the source code for Windows NT and 2000 was posted on the Internet without its knowledge. The company said it's not aware of any effect on users from the leak, which is being investigated by the FBI. Microsoft added that there were no signs of an intrusion into its corporate network or a breach of internal security.

IRS Blocks CSC From New Projects

The Internal Revenue Service said it will bar Computer Sciences Corp. from bidding on two upcoming IT projects because it is dissatisfied with the El Segundo, Calif., company's handling of an ongoing technology modernization effort. Both CSC and the IRS were criticized for the slow progress on the current project in a report issued by the tax agency's oversight board in December [QuickLink 43506].

GAO Says Feds Lack IT Oversight

In other government news, the U.S. General Accounting Office said in a report that less than half of the IT management practices required by Congress have been put in place at federal agencies. IT goals "are not always linked to specific performance measures," the GAO said in its report, which was requested by three Republican legislators. (For more details, go online: QuickLink a4060).

Short Takes

SUN MICROSYSTEMS INC. said it will offer subscription-based pricing on more of its products, including computer hardware and storage. . . . **SAP AG** and Atlanta-based **COCA-COLA ENTERPRISES INC.** said they plan to jointly develop a suite of distribution and equipment-servicing applications for the beverage and consumer-goods industries.

PeopleSoft Users Wary Despite Blow to Oracle

DOJ staff says agency should block takeover bid; Ellison remains confident

BY MARC L. SONGINI

U.S. DEPARTMENT of Justice staffers last week recommended that the agency block Oracle Corp.'s hostile offer to buy rival PeopleSoft Inc. But Oracle CEO Larry Ellison remained upbeat about the deal's prospects, and several PeopleSoft users said it's too soon to declare victory — as much as they would like to.

"I won't be able to relax until they drive a stake through the heart of this deal," said Dave Hyzy, director of IT at Benderson Development Co., a real estate developer based in Buffalo, N.Y. Hyzy uses PeopleSoft World, the green-screen business applications that PeopleSoft acquired when it bought J.D. Edwards & Co.

Jim Prevo, CIO at Green Mountain Coffee Roasters Inc. in Waterbury, Vt., agreed that the recommendation by the DOJ's staff to oppose the takeover bid on antitrust grounds doesn't mean that the fight for control of PeopleSoft is over.

"It's always great to score a goal," said Prevo, who runs his systems on PeopleSoft's flagship Enterprise software. "But the game's not over until the final buzzer sounds. At some point, I'd like to hear Larry Ellison say he is no longer offering to buy PeopleSoft."

Still in the Game

Ellison didn't say anything of the kind last week while speaking in Santa Monica, Calif., at an IT conference organized by Merrill Lynch & Co. The DOJ has yet to make a final decision on Oracle's $9.4 billion offer, he noted. "We have made a good case," he said. "We think we will clear [the DOJ review], and we will be able to buy PeopleSoft."

During a press conference at Oracle's AppsWorld show last month, Ellison left open the possibility of taking legal action against the DOJ if it does seek to block the takeover bid in court. But he said that would be up to Oracle's board. When asked last week about the potential for a legal battle with the DOJ, a company spokeswoman said that Ellison "is on the record with his personal opinion, but Oracle Corp. has not made any statement about this."

Mitch Meyers, vice president of operations at F.W. Murphy Control & Instrumentation Solutions in Tulsa, Okla., said that ever since the takeover bid was launched last June, he has thought it unlikely that Oracle would succeed in buying PeopleSoft. But Meyers added that he hopes the situation will become less uncertain after the DOJ makes its decision. The agency is expected to do so by March 2, according to PeopleSoft.

"Hopefully, starting in early March, we can put this issue behind us," said Meyers, who noted that he told DOJ officials last fall "the competitive environment would be damaged" by a takeover. F.W. Murphy, which makes industrial gauges and switches, is a J.D. Edwards user. 44758

Key Dates

MARCH 2

The DOJ is expected to announce whether it will file suit to block Oracle's takeover bid because of antitrust concerns.

MARCH 25

PeopleSoft's shareholders are due to vote on opposing slates of directors nominated by the two companies.

RELATED COVERAGE

Our take: Oracle's user-friendly changes are no coincidence, says Maryfran Johnson in her editorial on **page 20.**

Lobbying users: Oracle exec Chuck Phillips will state the company's case at a meeting of J.D. Edwards users.

QuickLink 44802
www.computerworld.com

Cisco Offers New Security Protocol to Guard WLANs

Alternative to LEAP can block dictionary attacks

BY BOB BREWIN

Cisco Systems Inc. last week announced that it has developed a new wireless LAN security protocol designed to ward off attackers who use brute-force techniques to discover user passwords.

The so-called dictionary attacks are a threat to Cisco's existing user authentication technology, the Lightweight Extensible Authentication Protocol (LEAP). But Ron Seide, the company's WLAN product line manager, said the new protocol protects against dictionary attacks by sending authentication data through a secure, encrypted tunnel.

Seide added that the new technology also eliminates the need for IT managers to install separate servers to handle the digital certificates used by another WLAN security system, the Protected Extensible Authentication Protocol (PEAP). Cisco is trying to bring together "some of the key advantages of LEAP's convenience and flexibility with the password-protection tunneling of PEAP," he said.

The combined approach is formally called the Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST). Cisco submitted a draft version to the Internet Engineering Task Force (IETF) for inclusion in the upcoming 802.1x WLAN security standard, and it plans to make the protocol available for free download next month.

Seide said Cisco will continue to support PEAP and LEAP as WLAN security alternatives. The threats against LEAP came to light last August, when Cisco issued a warning after it was told by a security researcher that he had developed a tool for launching dictionary attacks [QuickLink 41843].

Mark Wiesenberg, director of network services at Cisco user Sharp HealthCare in San Diego, said he will "track how this proposal is received by the IETF and evaluate a position based on industry acceptance." Sharp HealthCare uses both wired and wireless Cisco equipment on its network.

Joshua Wright, a systems engineer and deputy director of training at the SANS Institute in Bethesda, Md., developed the automated dictionary-attack tool while working at Johnson & Wales University in Providence, R.I. Wright called EAP-FAST "an excellent alternative" to LEAP, PEAP and EAP–Transport Layer Security, which Cisco also supports.

Wright had planned to publicly release his LEAP attack tool this month. But he said that Cisco asked him to delay the release and that he agreed to do so "as long as Cisco continues to work toward providing a secure alternative to LEAP users." 44779

MORE THIS ISSUE

Cisco and IBM partner up to address integration issues.

See page 12

Airline Passenger Screening System Faces Deployment Delays

Unauthorized access possible, GAO says

BY DAN VERTON
WASHINGTON

The General Accounting Office warned last week that the Transportation Security Administration's high-tech system for screening airline passengers for terrorist connections faces significant testing and deployment delays.

According to the GAO report, the TSA has not only fallen behind in testing the new Computer-Assisted Passenger PreScreening System (CAPPS II), but it also has yet to fully identify all of the functions it would like the system to perform [QuickLink 37392]. In addition, the report says the TSA has not yet completed work on at least seven key technical challenges that could stand in the way of the system's final deployment, including measures to protect the system from unauthorized access and a means of assessing the accuracy of databases.

"These issues, if not resolved, pose major risks to the successful deployment and implementation of CAPPS II," the GAO concluded.

'Scoring' Risk

In a written response to the report, Janet Hale, undersecretary for management at the Department of Homeland Security, said the CAPPS II system can now receive data from the Airline Data Interface, cleanse and format the data, perform a risk assessment and then assign a risk "score" to individual passengers.

But because the TSA isn't yet authorized to test the system using real passenger names and data, the DHS hasn't been able to advance system development beyond its current state, said Hale.

Some airline security experts claim the U.S. runs a major risk by focusing on information technology and other high-tech solutions to uncover terrorist plots against airports and airlines.

Because the terrorist threat against airlines is a relatively new experience in the U.S., "there is a tendency to solve problems through the use of technological means," said Rafi Ron, president of New Age Security Solutions in Washington and former head of security at Ben Gurion Airport in Tel Aviv. "Focusing on technology sometimes makes you lose your overall perspective. That can lead to unbalanced planning, unbalanced investment and misuse of funds."

Instead of relying on IT systems for the bulk of security monitoring, Ron said airport authorities should train personnel in behavior pattern recognition, a technique that has been highly successful in Israel.

So far, Boston's Logan International Airport has taken the lead in the U.S. when it comes to offering training in behavior pattern recognition.

THE ASSOCIATED PRESS

LAW ENFORCEMENT PERSONNEL at Boston's Logan airport study the behavior of airline passengers and look for suspicious activity.

At Logan, law enforcement personnel now study the behaviors of airline passengers in public areas and look for suspicious activity — the exact details of which remain secret for security reasons. **44772**

Turnover Increase Hits the Ranks of State CIOs

IT execs resign in N.H., Florida as cost issues surface

BY THOMAS HOFFMAN

The increased financial scrutiny that many IT departments are facing isn't limited to the private sector.

Since last August, the CIOs of at least five state governments have resigned. Some left to pursue corporate job opportunities or departed because another political party came into power. But the changing of the guard is a reflection of the intense pressures that public-sector CIOs are under to slash costs, said Jim Krouse, an analyst at Input, a Reston, Va.-based market research firm.

"There's just a tremendous amount of turnover lately at the state CIO level," Krouse said. CIOs "are under pressure to cut costs like department heads for other government agencies," he added.

Robert Anderson, the outgoing CIO in New Hampshire, is a prime example. Anderson was tapped to fill the state's top technology post last February by his former boss in the corporate world — Gov. Craig Benson, once the CEO of now-defunct Cabletron Systems Inc. But Anderson didn't deliver $11 million in expected savings in his first year, and he resigned in late January, on the day he was expected to present legislators with examples of his cost-cutting work.

A high-ranking Granite State IT official who requested anonymity said he thinks Anderson "was set up to fail." The CIO "was heading in the right direction," the official said. But, he added, a first-year savings goal of $1 million would have been more realistic. The state's IT budget is about $39 million.

State Sen. Dick Green, who chairs the legislature's finance committee, said Benson and his budget director originally suggested that Anderson could chop $20 million in IT costs during his first year on the job. But legislators viewed that proposal as "too optimistic" and substituted the $11 million goal, Green said.

The targeted cost savings "haven't materialized, and we kept the accountability pressure on him," Green said, referring to Anderson. "I think he was trying, but he wasn't able to give us any concrete evidence that this was being accomplished."

Anderson couldn't be reached for comment last week. A spokesman for Benson said the $11 million cost-cutting figure surfaced after the legislature began reviewing the governor's budget proposal for the current fiscal year. He added that Benson "was very pleased with the work [Anderson] did," pointing to the former CIO's efforts to consolidate 300-plus IT workers at nine state agencies into a single unit.

Anderson isn't the only state IT chief who has felt the heat. On Feb. 4, Kimberly Bahrami announced that she would resign as Florida's CIO at the end of next week.

Bahrami was named CIO in July 2002, after holding the job on an acting basis for a year. But Florida's IT organization has come under fire from legislators and government watchdogs regarding $150 million in multiyear contracts. Some officials say the contract language is vague and could put the state at financial risk.

"It's been a major concern among legislators about how we got into some of these contracts and whether we'll be able to recoup some of the costs if any of these systems fail," said state Sen. Walter G. "Skip" Campbell, who chairs the state's Democratic caucus.

Bahrami didn't return calls seeking comment. Carla Gaskin, a spokeswoman for the Florida Office of Information Technology, confirmed that there have been audits of IT contracts but said that she thinks all of the contracts in question were awarded prior to Bahrami's tenure as CIO. Gaskin added that Bahrami is leaving the job "by her choice." **44781**

Exit Pols

ROBERT ANDERSON, New Hampshire: Resigned in **late January**, after expected reductions in IT costs didn't materialize.

KIMBERLY BAHRAMI, Florida: Resigning effective **Feb. 27** following criticism of IT contracts by some state legislators.

CHAD McGEE, Louisiana: Resigned on **Feb. 13** after a new governor took office.

CAROLYN PURCELL, Texas: Left on **Aug. 31** after nine years to launch an IT consulting firm.

ALDONA VALICENTI, Kentucky: Resigned in **November** after six years as CIO to become a vice president at Oracle.

BRIEFS

Sun Agrees to Buy Server Vendor . . .

Sun Microsystems Inc. plans to acquire Kealia Inc., a Palo Alto, Calif.-based company led by Sun co-founder Andy Bechtolsheim. Kealia is designing servers based on Advanced Micro Devices Inc.'s Opteron processor. As part of the deal, Bechtolsheim will rejoin Sun as senior vice president and chief architect for its Volume Systems Products group. The financial terms weren't disclosed.

. . . And Plans for Solaris Upgrade

Sun also plans to ship a Solaris operating system upgrade by year's end. Solaris 10, which was previewed as part of a wider product rollout [QuickLink 44685], will include new features such as the ability to partition servers without installing multiple copies of the operating system. Sun didn't say whether it will increase the software's price when the upgrade ships.

J.D. Edwards Chief Joins Blade Vendor

Robert Dutkowsky, the top executive at J.D. Edwards & Co. until it was acquired by PeopleSoft Inc. last summer, has joined blade server vendor Egenera Inc. as chairman, president and CEO. Dutkowsky replaces Vern Brownell, who founded Marlboro, Mass.-based Egenera in 2000 and will remain at the company as its executive vice president and chief technology officer.

Short Takes

PEOPLESOFT released an upgrade of the PeopleTools systems management software that works with its flagship PeopleSoft Enterprise line of business applications. . . . **SAP AG** named John Barry, a retired major general in the U.S. Air Force, to head a worldwide sales effort aimed at military and homeland security applications.

MARK HALL ▪ ON THE MARK

ISPs Can Slam Spammer Profits . . .

. . . with new technology that sits on a service provider's network borders and **slows spam progress to a costly, slothlike pace.** Called Edge GX and developed by Openwave Systems Inc. in Redwood City, Calif., the Linux- or Solaris-based software is the outgrowth of an ad hoc Internet service provider and vendor organization founded last fall with a decidedly uncatchy name, Messaging Anti-Abuse Working Group, and an even less melodic acronym, MAAWG. Although **short on literary or phonetic style, the group is long on clever ideas** to hinder spammers, such as getting ISPs to work together to fight pernicious unsolicited e-mail. "We don't defend against spam the same way carrier to carrier," observes Todd Dean, director of data operations and support at Cox Communications Inc. in Atlanta. But with the frightful costs of unnecessary bandwidth, server and storage capacity to handle spam, ISPs need a coordinated strategy, Dean says. He added that he and his competitors have seen the light and will begin to use common weapons to diminish, if not eliminate, spam. Edge GX is the first tool developed under MAAWG's auspices. According to Richard Wong, general manager of Openwave's messaging group, the software has two key features specifically for service providers. The first is called Receipt-To: Harvester. Again, you can question the less-than-snappy name, but not the cool technology. This feature keeps track of messages bounced back to an IP address, the inevitable result of classic dictionary attacks. If those mail-return numbers are beyond what the ISP deems legitimate, it will **slow the rest of the outgoing messages from the spammer,** "so much that it will take a decade to get through," claims Wong. The second technique looks at outbound mail traffic from a source: If it's outside normal behavior, it slows down message processing. If the queued messages continue to pile up, **the oddly named Rate-Limiting Tarpitting feature drops the spammer connection** for as little as a millisecond or as long as an hour, adding costs and hassles to spammers. For once. Edge GX hits the streets today. ▪ Service providers aren't just your spam-fighting buddies. They can also be your source for call center technology. **Using a PC and VoIP, call center agents access** an ISP-based infrastructure provided by CosmoCom Inc. for inbound or outbound call activities. The Melville, N.Y.-based company delivers everything from predictive dialing to voice-recognition technology. Currently shipping Version 4.3, the company is working on a 5.0 upgrade that will pump up call capacity, improve e-mail integration and offer better speech recognition. If you're calculating the costs of investing in your call center's systems, **consider putting $300 to $500 in one of your spreadsheet's cells.** That's what CosmoCom claims it costs per month, per agent to use the call center service. ▪ With your spam-fighting and call center operations now functioning somewhere on the Internet, you might as well toss your integration work out there as well. At least **as far as Web services are concerned,** argues Halsey Minor, CEO of Grand Central Communications Inc. He says standards such as the Business Process Execution Language make it possible for his San Francisco company to exist. Grand Central gathered and categorized a variety of business-oriented Web services. It mediates the protocol and data-format variations that inevitably reside in a vendor's implementation of a standard. That makes it safer for you to pick and choose a service to integrate into your application. By summer, Minor says, Grand Central will be able to "empirically determine the reliability" of any public or private Web service, a **useful bit of information when creating** service-level agreements. ▪ Today, Teradata, a subsidiary of NCR Corp. in Dayton, Ohio, unveils its Data Warehouse Maturity Assessment service. Teradata consultants have devised a scorecard that shows the six stages and 28 processes involved in how effectively a company uses its data warehouse for business intelligence. Mark Shainman, an analyst at Meta Group Inc. in Stamford, Conn., says many companies deploy "their analytical infrastructure in a quick-and-dirty fashion," which leads to significant inefficiencies in data warehouse usage. Teradata says its consultants "are database-agnostic." Always a good idea to **keep religion and technology separate.** **44756**

Key Code Testing

Software Development Technologies Inc. in San Jose tomorrow will ship Release 7 of its Unified Test Pro, a software analysis and testing tool. Designed for testers who aren't necessarily programmers, the software uses keywords tied to business processes to automatically inspect code. The new release adds a full integrated development environment and templates of business processes. Pricing starts at $6,495 per seat.

California Signals Intent to Regulate VoIP

BY JORIS EVERS

The California Public Utilities Commission (CPUC) has tentatively concluded that voice over IP services that connect with the traditional phone network are public utilities and subject to its regulatory authority.

The panel unanimously voted to investigate a regulatory framework for Internet telephony services, according to the order approved last week. The CPUC predicts that VoIP could account for as much as 40% of intrastate telecommunications revenue in California by 2008.

Executives of VoIP service providers such as Vonage Holdings Corp. in Edison, N.J., have warned that regulation could stifle growth of such services and increase costs.

To date, VoIP providers in California haven't been covered by the regulations affecting traditional telecommunications companies. VoIP providers haven't had to make the same contributions to state funds, pay interconnection charges or provide access to the emergency number 911.

The CPUC estimates that by 2008, if the rules on these contributions don't change, certain state programs will lose $183 million to $407 million in revenue. The commission expects a final decision to be made within 18 months.

Separately, the Federal Communications Commission last week began proceedings seeking comments on the appropriate regulatory treatment of VoIP. The FCC has suggested that VoIP services should continue to be subject to minimal regulation. **44770**

Evers writes for the IDG News Service.

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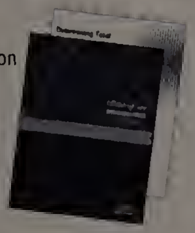

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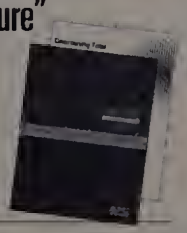

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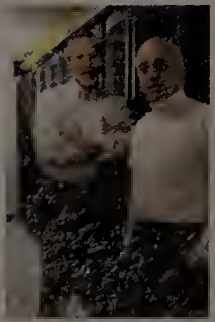

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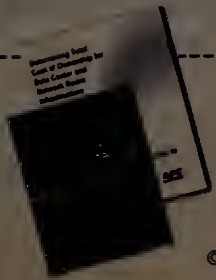

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J.C. Penney Seeks Better Grip on SLAs

Retail chain will use upgraded tool to ensure that IT meets performance goals

BY MATT HAMBLEN

RETAILER J.C. Penney Co., which uses application performance monitoring software developed by NetQoS Inc., plans to upgrade to a new version being announced today, to help ensure that it complies with IT service-level agreements (SLA) nationwide.

J.C. Penney plans to install SuperAgent Version 5 from Austin-based NetQoS in April, after having used prior releases for nearly two years, said Barry Hicks, head of performance management at the Plano, Texas-based department store chain.

SLAs are becoming "strategically important" to the company as it tries to understand what levels of performance end users will experience on various applications, Hicks said.

"Today, we can only approximate," he explained. "Having a verifiable user response time is something we consider to be mission-critical to our operations as we move more and more to client/server and Web-based applications."

J.C. Penney currently runs SuperAgent Version 4 on 20 hardware appliances and uses the software to measure the performance of all applications at more than 1,000 department stores and nearly 2,800 drugstores operated by its Eckerd Corp. unit. The NetQoS tools also monitor the corporate and Eckerd Web sites, said Ginger Elliott, manager of network technologies at J.C. Penney.

The company picked SuperAgent two years ago because the technology didn't require it to install client software on tens of thousands of desktop PCs and other end-user devices, Elliott said. "Frankly, a lot of our users are not very skilled at loading applications," she said. "We were running into performance issues on the client side, but the only tool we could use was multiple sniffers."

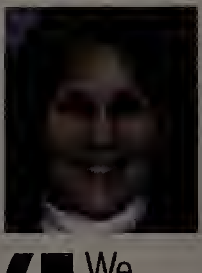
There are about 80 management software vendors that sell SLA measurement tools, said Rick Sturm, an analyst at Enterprise Management Associates in Boulder, Colo. The major vendors include Computer Associates International Inc., Hewlett-Packard Co. and IBM's Tivoli unit.

But Sturm said one differentiator for SuperAgent Version 5 is that it gives network managers "actionable information," meaning that if performance on an application was to slow down, an IT manager could identify the precise port on a switch or server that is causing the problem.

Setting Expectations

SuperAgent and a related product called ReporterAnalyzer have helped J.C. Penney track the cause of performance problems and determine whether they are the result of network or application issues, Elliott said. With such information, the retailer is better able to plan for growth, especially as more demands are placed on its Web sites, she noted.

SuperAgent Version 5 is available now and starts at $34,500. J.C. Penney officials wouldn't disclose what they have invested in NetQoS's products, but Elliott said the cost savings have been "tremendous." It would have cost "exponentially more" to deploy and maintain agent software on PCs, she added.



"We were running into performance issues on the client side.

Ginger Elliott, manager of network technologies, J.C. Penney Co.

Jack Mendell, a network analyst at Watkins Motor Lines Inc. in Lakeland, Fla., said the trucking company has spent about $100,000 on NetQoS tools. Last month it began running SuperAgent Version 5 as a beta tester to monitor the SLA performance of applications at 135 locations with a total of 2,000 end-user terminals.

Products to measure SLAs, both for internal business units and network service providers, are becoming essential, Mendell said. "Users are looking more at us now as providers of a utility, and they want good quality," he said. "They used to worry [only] if the network was up or down, but now they say, 'I'm happy you've gotten it to me, but I want it in three seconds instead of five.' " **44780**

Wells Fargo Upgrades Online Apps

Bank adds BEA middleware to integrate systems

BY LUCAS MEARIAN

Wells Fargo & Co. is investing in a major upgrade of its online applications for corporate banking customers in an effort to make the Web-based services easier to use. Analysts said the project is part of a trend that's helping to push IT spending upward in the entire wholesale banking industry.

Steve Ellis, executive vice president of Wells Fargo's wholesale services group, last week said the upgrade of the 4-year-old Commercial Electronic Office (CEO) online service began on a pilot basis in December and will start to go live over the next several months. But he added that the upgrade is expected to take up to two years to complete.

Wells Fargo is using BEA Systems Inc.'s WebLogic at the presentation level to port back-end applications to the home page for presentation to business customers.

Currently Wells Fargo is rolling out an internal version of CEO for its employees, to give them a more consolidated view of customer data.

CEO is used by about 140,000 end users at Wells Fargo's corporate clients to view account information and bank statements and to access money-transfer services and an automated clearinghouse that processes about $6 trillion in electronic payments annually.

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Wells Fargo is upgrading CEO and installing WebLogic to tie together disparate applications and create integrated business processes and data workflows. "We are an information-rich company, but there's so much information that it's sometimes hard to find what you need," Ellis said. "So we're grabbing it and pushing it upfront to the person who needs it, so they can do their job faster."

For example, BEA's software will enable users to access business systems directly from the CEO home page. Users will also be able to tailor the online service to fit their business needs, and Ellis said the new system will include built-in workflow applications and IT security features such as end-user authentication.

Ellis wouldn't disclose the total cost of the upgrade, but he said that putting the budget "in the millions would be low. It was a big project." He added that San Francisco-based Wells Fargo got a return on its investment within a year of completing the original CEO rollout and expects no less than that from the ongoing upgrade.

Spending Drivers

The wholesale banking industry has traditionally lagged far behind retail banks in deploying Web-based applications and other leading-edge technologies, according to Lee Kidder, an analyst at TowerGroup in Needham, Mass.

Wholesale banking has become an increasingly volatile business because of a 15% drop in demand for commercial loans over the past three years, TowerGroup said in a report released last November. It also reported that once-loyal corporate customers now shop around for the best financing deals and are demanding better service and Internet-based technology from banks.

But TowerGroup predicted in the report that after years of IT spending stagnation, U.S. wholesale banks will increase their overall technology investments by 6% this year compared with 2003.

Kidder said four issues are driving the expected increase: cost-cutting through more business automation, compliance with new risk management and corporate governance regulations, the need to find additional revenue sources, and a push to better integrate back-office systems.

"You can't do effective cost-cutting or effective customer relationship management or risk management unless you have a systems landscape that is well integrated," Kidder said. **44782**

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BRIEFS

Microsoft Patches Windows Flaws . . .

Microsoft Corp. posted software patches in an effort to fix three Windows security vulnerabilities, including a flaw in the Abstract Syntax Notation One library that attackers could use to take control of systems. The company, which gave that flaw a "critical" severity rating, was first notified of the problem last July. A Microsoft official said it took so long to produce the patch because of the need to "look at the broadest possible implications" of the flaw.

. . . And Undoes Part Of Browser Revamp

Microsoft also issued a patch that restores Internet Explorer's ability to handle some URLs containing user names and passwords. It had blocked the browser from processing such URLs earlier this month in a bid to stop e-mail phishing scams. But some developers reported that legitimate remote-access applications stopped working. Microsoft said URLs that use the @ symbol will still be blocked.

PalmSource Pushes Two Versions of OS

PalmSource Inc. introduced a rewritten operating system for handhelds but said it will continue to upgrade its current software. Most of the Sunnyvale, Calif.-based company's development will focus on the new Palm OS Cobalt release, which is more compatible with Windows and offers improved multitasking. Work on the existing Palm OS 5, now called Garnet, will focus on wireless and phone functions.

Short Takes

HEWLETT-PACKARD CO. said it will report first-quarter financial results at the high end of its projections, with revenue of about $19.5 billion for the period that ended Jan. 31. . . . **SILICON GRAPHICS INC.** said it's negotiating the sale of its graphics software unit.

Vendors Aid Convergence Of Networking, Security

Juniper to acquire NetScreen; Cisco, IBM expand security partnership

BY JAIKUMAR VIJAYAN AND MATT HAMBLEN

TWO SEPARATE vendor announcements last week highlighted a growing trend toward the integration of core network technologies with security and policy management features.

One was an expanded partnership between industry heavyweights IBM and Cisco Systems Inc. The companies are collaborating on product integration in a move designed to simplify tasks such as user provisioning, client security management and security policy compliance.

The other announcement was Juniper Networks Inc.'s proposed purchase of NetScreen Technologies Inc. in a stock-for-stock deal valued at about $4 billion. If the deal goes through as expected, Juniper will start bundling NetScreen's network and application security products with its own network gear.

The moves highlight vendor efforts to address the growing complexity companies face in managing the multiple, disparate network and security elements needed to protect their businesses, said Eric Ogren, an analyst at The Yankee Group in Boston.

"The common theme here is that security is moving into the network and is becoming a network service," Ogren said. "IT in the extended enterprise can no longer control the configuration of the endpoints connecting to their networks."

Aside from allowing for quick integration of basic security measures into networks, the convergence provides for one-stop shopping, said Bruce Azuma, corporate director of IT at Wilbert Inc., a Broadview, Ill.-based company in the funeral services and industrial plastics businesses. "Vendors need to be thinking of ways to embed security into the network infrastructure," Azuma said.

The partnership between Cisco and IBM is designed to address such integration issues on several fronts. For example, Cisco's Secure Access Control Server has been tied more closely to IBM's Tivoli Identity Manager software. Network administrators will now be able to use identity information contained in the Tivoli product to also control and provision network access.

Similarly, IBM will embed Cisco's virtual private network (VPN) client and Security Agent software in all of its ThinkPad notebooks in a bid to provide more robust user authentication and remote access control.

Meanwhile, Juniper's proposed purchase of NetScreen will allow the company to extend the functionality of its offerings, said Richard Ptak, an analyst at Ptak, Noel & Associates in Amherst, N.H.

NetScreen sells a range of security products, including a deep-inspection application firewall and a VPN product. "This will allow Juniper to create a broad-based family of security functions to protect the network, applications and devices," Ptak said.

Unlike other major networking companies, Juniper sells exclusively to the service-provider market. Even so, the company's move is similar to those of several other vendors in the networking market, a movement led by Cisco.

"Over the last three or four years, Cisco has successfully convinced enterprise customers that security has to go down to the packet level," said Bill Lesieur, an analyst at Hampton, N.H.-based Technology Business Research Inc.

"Pretty much all the telecom equipment makers will offer some kind of security product or service," Lesieur said. 44769

Cisco/IBM Collaboration

- **Integrated user provisioning:** Tying Cisco's Secure Access Control Server to IBM's Tivoli Identity Manager software.
- **Integrated endpoint security:** Embedding Cisco's VPN client and Security Agent software in IBM ThinkPad notebooks.
- **Automated policy compliance:** IBM is participating in Cisco's Network Admission Control program.

Combining Capabilities Has a Downside, Users Say

As network equipment makers load security capabilities into their devices, the convergence could pose technology and management challenges, some users and analysts said.

"The only caveat that organizations using this model must consider is the need for redundancy, because . . . you have a single point of failure," said David Roessler, director of information systems at Quay Corp., an electronics contractor in Eatontown, N.J. "It is essential to avoid this and make sure proper fail-over features are in place."

Philip Brody, chief technology officer of the Clark County School District in Las Vegas, said many router and switch makers are putting firewalls and VPNs directly into their devices. "If it works, that seems fine to help make things easier for us," he said. "But the problem is there may be a tendency by vendors to make their devices proprietary. And we don't want proprietary stuff that limits our ability to have a mixed network with best-of-breed devices from different vendors."

BRODY: "We don't want proprietary stuff that limits our ability to have a mixed network."

Moreover, adding too many functions to a device could prove difficult to manage, said Jeff McConocha, president of NCS DataCom Inc., an integrator of network gear and security products in Cleveland. "If we ask one piece of equipment to do too many jobs, our customers can't manage them very well," he said. "These are complex technologies. We could even compromise security by oversimplifying the setup of the device."

On the positive side, combining network hardware with security software makes management much easier, Roessler said. It also reduces deployment time, training overhead and the physical size of the network, he said, and allows for central management of security and network problems.

But with security functions being integrated into the networking layer, companies will still need two separate interfaces to give control to both security and network managers, advised Mark Fabbi, an analyst at Gartner Inc. Security and networks are "two [management] groups and two responsibilities," he said. "It's a pretty big issue, since the security guy doesn't want the networking guy to play around with the security settings, or vice versa. You need someone responsible for security policy and can't have the networking person muck with that."

– Matt Hamblen

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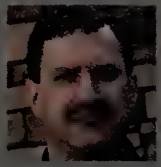
A Java Tools Face-off

IBM didn't join the Java Tools Community; Sun didn't join the independent Eclipse group spun off by IBM. Here, executives from the two companies defend their differing positions on the notion of a common tools framework for Java. **By Carol Sliwa**

LEE NACKMAN



Vice president of desktop development tools and CTO, IBM's Rational Software division

Does the newly independent Eclipse Foundation represent the way IBM thought Sun should have handled Java? Certainly IBM would like to see a more open Java process than there is. I think Eclipse is breaking new ground as a governance model because we have the open-source community, and we have the vendor communities really working together, and all the signs are that it's a good model.

Do you think it would be a better world for your customers if the NetBeans open-source framework from Sun or the tools frameworks from Borland or Oracle no longer existed? I think it would be a better world if there was a common tools platform that all the vendors built on top of, and we competed in delivering the new kind of functionality that customers need rather than competing on delivering the old stuff that exists in the platforms. Customers want us to make application development simple. They want easier testing, all that sort of stuff. And if what we do is compete against each other by rebuilding the low-level infrastructure over and over again, we're not delivering that kind of customer value.

Why did IBM create the Standard Widget Toolkit (SWT) to build graphical user interfaces? We didn't do it because we thought it would be fun to fracture Java or any kind of provocative words like that. We did it because we felt that we needed to have our application development tools be competitive with what Microsoft can do with Windows. . . . I think Swing has progressed in the last several years, and it's gotten better. But it still does not have the same kind of native look and feel on everything perfectly done using the native widgets. That was achieved with SWT.

Why didn't IBM submit the SWT to the Java Community Process (JCP) that Sun established to evolve Java? Why don't you have a conversation with somebody from Sun and ask them questions about how interested they were in having SWT come into the JSR [Java Specification Request] process? . . . There's a lot of, how shall I say, noise about splintering Java and all of this kind of stuff. We were interested in what does it take from the technology to deliver the kinds of things that a customer wants, and I just wasn't really very interested in getting involved in a lot of nonsense about that. So I think that to the extent that the community feels that SWT could be an important part of the Java platform, we ought to move ahead with pulling SWT into the JSR process.

> I think it would be a better world if there was a common tools platform that all the vendors built on top of.
> **LEE NACKMAN**

Why doesn't IBM submit SWT now? We have talked about submitting it to the JCP. We would like to see it done like the JCP has done with Apache, where you have a JSR that basically references what the open-source community does. I'm not opposed to that.

Is there room for both SWT and Sun's Swing graphical interface tool kit? I absolutely think there's room for both. There are some capabilities in Swing that SWT doesn't have. There are some capabilities in SWT in terms of its performance and size and so forth that Swing doesn't have. And I don't see any reason that you have to tell people, "Thou shalt use one and only one."

What's your stance on the Java Tools Community that Sun, Oracle and BEA formed? The JTC talks about improving toolability of J2EE, and I think that's a really good goal. . . . The questions I have about the JTC are: Why do we need a JTC as a separate advisory organization to the JCP process? Why is it that the JCP process can't admit that kind of influence from the tools vendors that's needed in the evolution of the Java platform?

I would like to see JCP people [be] more effective, rather than forming yet another organization, yet another set of interactions between various companies and so forth. Let's make the JCP work effectively in pushing toolability ahead.

Q&A

SIMON PHIPPS

Chief technology evangelist, Sun Microsystems Inc.

Sun objected to joining Eclipse on the grounds that it would be required to transition to Eclipse. IBM claims there's no such requirement. I can't discuss what the negotiations were between IBM and Sun before Eclipse was independent, because they're covered by commercial confidence. But what I can say is that the result of those negotiations led Sun to believe that it was not in its business interests to join Eclipse on the terms that were discussed, and now that Eclipse is apparently an independent organization, maybe that will change. Sun has no hostility towards Eclipse. It also has no intention of producing an Eclipse-based product. So it makes no more sense for us to join Eclipse than it makes for IBM to join in with NetBeans. IBM apparently has no plans to make a NetBeans-based product. No one is criticizing them for not joining in.

IBM says a common tools platform would be a good thing for customers of Java. What do you think? It's somewhat naive, because the Java community is so diverse that trying to create one framework that serves everyone is a lost cause. Now in both NetBeans and Eclipse we have two very strong frameworks that are supported by strong corporations who are using [their respective frameworks] for their tools. And there is a richness there that people can be involved with.

Do you think that IBM should have turned over SWT to the JCP? I can't comment on IBM's actions. . . . I observe that the Java community succeeded by cooperating on standards and competing on implementation and that the way forward for both NetBeans and Eclipse is to cooperate on standards and compete on implementation. And insofar as NetBeans or Eclipse are creating things that are going to be part of the Java platform standard, they should be working through the JCP. . . . There were good things and bad things that happened in the past, and there's no point in rubbing salt into old wounds. We are where we are today.

> In both NetBeans and Eclipse we have two very strong frameworks that are supported by strong corporations who are using [them] for their tools.
> **SIMON PHIPPS**

All of you have a vested interest in Java succeeding. And when you have SWT and Swing and your customers need interoperability, isn't that a concern? The general principle of Java is to isolate the application from the issues of the underlying platform, and consequently, I personally am not very excited when I see approaches being taken that make it compulsory with regard for the underlying platform. I think that it flies in the face of one of the basic principles of Java that I had spoken about when I worked for IBM and that I talk about now that I work for Sun.

Now sometimes you have to do these things as a matter of expedience. But it shouldn't be allowed to stay that way in Java. There's been a lot of comment about the use of Swing within Eclipse, and it reflects the fact that there's only so far you can go with a platform-specific approach. It's a whole lot of work if you have to rewrite all your code every time you decide you want to use a different operating system variant.

Do you think there's a place for SWT to be incorporated into Swing? Probably not, because the point of Swing is that Swing is an abstract interface. . . . James Gosling has commented before that when he was working on [the Abstract Window Toolkit], he looked at the approach that SWT takes and he decided not to use that approach.

IBM created something and turned it over to a more independent organization with a non-IBM executive director. Couldn't Sun have done something similar and found a trusted entity to protect what it created and be more open? Possibly. But it isn't a priority, because it isn't a problem with the Java community. The only company in the Java Community Process that ever comments about it is IBM. And they only ever comment about it to people like you. **44775**

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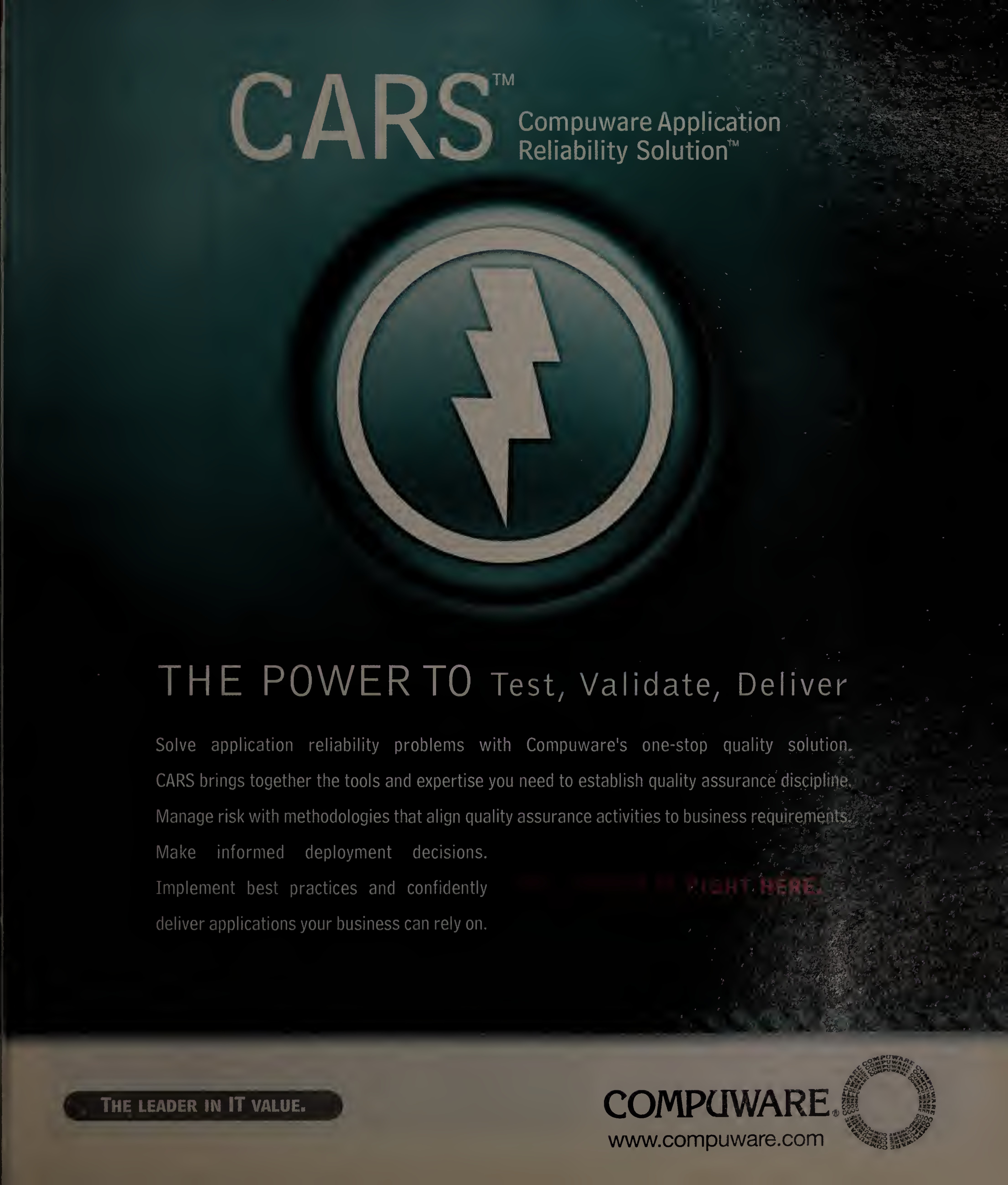

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New Tools Help Users Manage Security Events

BY JAIKUMAR VIJAYAN

THE TORRENT of data generated by the myriad security devices needed to protect enterprise networks is creating demand for security event management software capable of mining the data for meaningful information.

Two of the better-known vendors in this market are releasing upgrades to their products to provide enhanced response and graphical analysis functions.

One is Edison, N.J.-based NetForensics Inc., which next week will announce Version 3.1.1 of its namesake security information management software. A key enhancement is an automated response capability that prescribes specific actions administrators can take in response to security incidents, said Nitin Ved, president of NetForensics.

Beyond merely alerting administrators to potential problems, the new software walks them through a remedial procedure based on the SANS Institute's Six-Step Incident Response process, Ved said. Another key addition is a user-based visualization capability designed to simplify the manner in which data is presented to business users, security analysts, auditors and network administrators, he said.

Such enhancements add further value to the alerting capabilities that are already enabled by the software, said Jim Patterson, a systems analyst for the state of Illinois in Springfield. The government office has been using NetForensics for several years to collect and correlate information from its firewalls, intrusion-detection systems and antivirus products.

Sunnyvale, Calif.-based ArcSight Inc., meanwhile, is releasing Version 3.0 of its security event management software this week. A key feature of the upgrade is a new archiving and retrieval function designed to reduce the cost of storing and managing security event data, said Hugh Njemanze, chief technology officer at ArcSight.

ArcSight 3.0 modifies the manner in which security event data is stored in databases and uses new compression technology, allowing users to store five times as much data in the same amount of space used previously, Njemanze said. A new analyst collaboration function lets security administrators from multiple locations collaborate on the same data to evaluate threats and responses, he said.

Despite the value such management software can deliver, vendors have a long way to go when it comes to linking security event data to business impact, said Jim Hurley, an analyst at Aberdeen Group Inc. in Boston. "How do you know if a security event is really worth bothering [with] without first knowing how material it is to the company's business processes?" Hurley said. Event management software won't reach its full potential until this sort of decision-making is enabled, he said. **44765**

KEY FEATURES

NetForensics 3.1.1

User-based visualization: Offers simplified data views.

Incident resolution management: Offers a single control point for managing events and handling incidents.

ArcSight 3.0

SmartStorage Archiving and Retrieval: Designed to provide more efficient storage and retrieval of incident data.

CounterACT Active Response: Works with third-party configuration and policy-compliance managers to stop attacks.

Continued from page 1

Hospital IT

one as part of an overhaul of its entire campus to meet the law's requirements. The new data center is due to be fully operational by March 2005.

In addition, the data center reconstruction prompted a server consolidation and upgrade project, Zielanzinski said. El Camino Hospital is consolidating more than 150 smaller servers onto two Unisys Corp. ES 7000 systems, each of which can support up to 32 Intel processors. A matching set of servers is being installed at a new disaster recovery site 120 miles away, in more geologically stable Sacramento, he added.

The law, known as the California Facilities Seismic Safety Act, was passed in 1994 after the Northridge earthquake struck north of Los Angeles and caused $3 billion in damage to 23 hospitals. But the measure is just now becoming an urgent matter for many health care companies, which must comply by 2008 — or 2013 if extensions are granted.

The California HealthCare Association estimates that it will cost $24 billion to earthquake-proof or rebuild a total of about 2,700 hospital buildings throughout the state. IT costs could account for $2.4 billion to $3.6 billion of that, said Gerard Nussbaum, a consultant at Kurt Salmon Associates Inc. in Atlanta.

The staggering costs played a big role in convincing Sacramento-based Tenet Healthcare Corp. to seek buyers for 19 of its 36 California hospitals. Tenet last month said it would cost $1.6 billion to bring the facilities being divested into compliance with the state's seismic standards.

But for all the expenses it's generating, the earthquake law gives health care firms an opportunity to upgrade their IT systems, says Nussbaum and CIOs such as Sutter Health's Hummel. It provides an impetus for hospitals to develop IT installations that are "truly 21st century," Nussbaum said.

Sutter Health has already replaced five of its 26 hospitals and needs to completely rebuild six more. Hummel said the company is looking to take full advantage of the situation on the IT side. For example, his plan calls for storage capacity to grow at a rate of 12TB to 15TB per year to support digital imaging and other data-intensive medical systems.

Sutter also plans to run fiber-optic circuits to every floor of the new hospitals to support the exchange of digital images, as well as new systems such as electronic medical records and computerized physician order entry. In addition, it's building in wireless systems to provide doctors and nurses with access to data from anywhere inside a hospital, Hummel said.

Joy Grosser, CIO at the University of California, Irvine, Medical Center, agreed that the earthquake law is creating opportunities to plan from scratch IT infrastructures designed to support new systems. Grosser said that in her case, that includes deploying new wireless networks to accommodate devices such as tablet PCs as well as broadband networks to support the increasingly high-tech systems in operating rooms.

The mandate has required extensive retrofitting and upgrading of the technology infrastructure at White Memorial Medical Center in Los Angeles, said Brian Smolskis, the facility's IT director. His staff is installing new fiber-optic cabling, backup power supplies and fire-suppression systems in the hospital's data center and rebracing its server racks, Smolskis said, adding that none of the changes is a simple task. **44778**

Facing Seismic Change, IT Pros Try to Meet Current Needs

IT managers at California hospitals are scrambling to continue supporting end users while medical facilities are being rebuilt to meet the requirements of the earthquake-protection law.

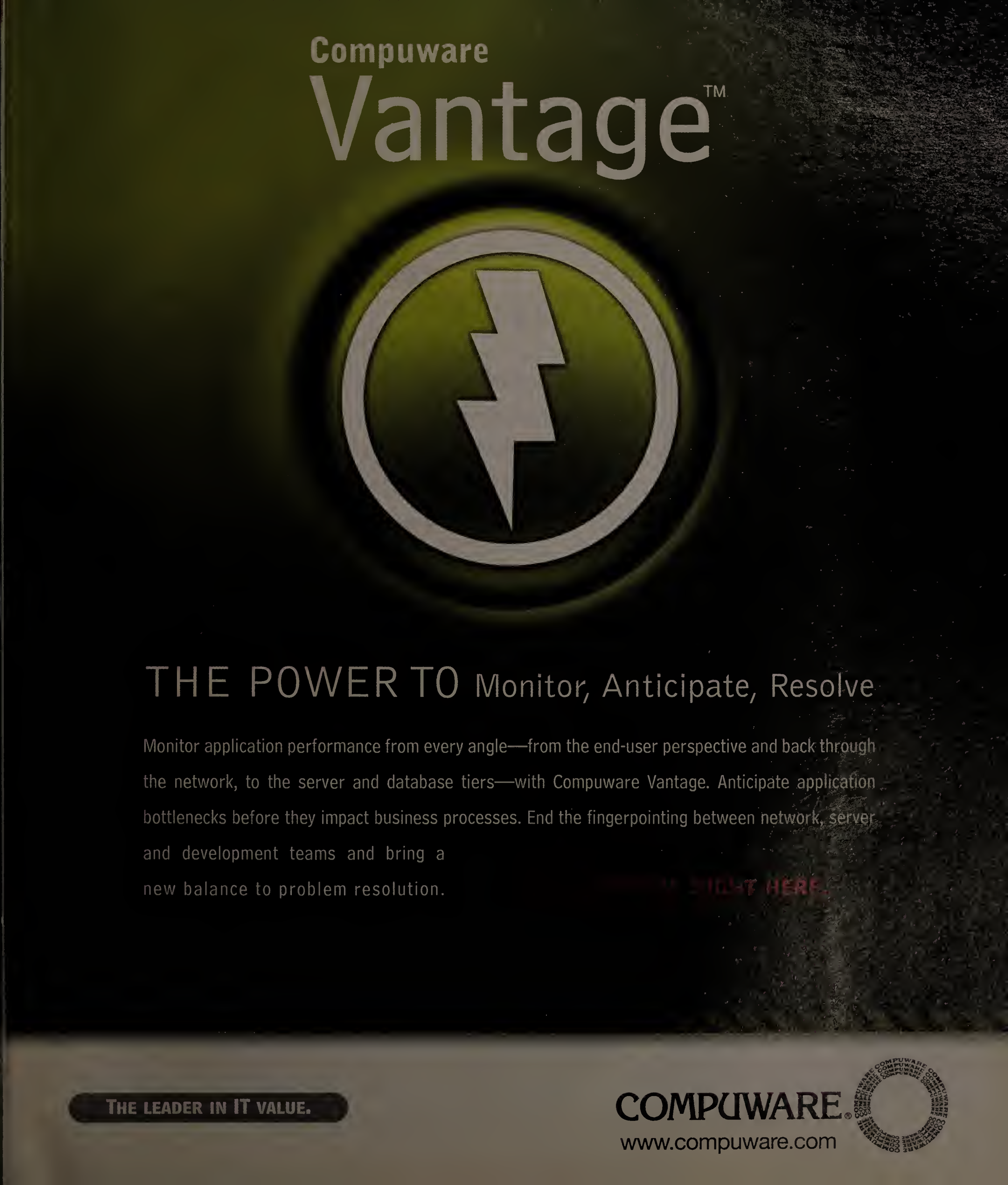
Some hospital CIOs said their staffs find themselves reconfiguring systems on the fly as medical departments move to temporary spaces because of renovations or new construction.

For example, Robert Blades, CIO at Adventist Health Sciences Center in Loma Linda, said his IT department must continually adjust the hospital's network and all of its desktop devices. The work has to be performed in a way that lets the hospital care for patients without interruption as it becomes compliant with the seismic mandate.

"We want to minimize the impact to our patients and also not break any of our internal processes while we are going through this," Blades said.

John Hummel, CIO at Sutter Health in Sacramento, said the planning process there includes keeping a sharp focus on physical building plans – something Hummel realized he had to do after he looked at an architectural drawing and didn't see any provisions for wiring closets on patient floors. The architect explained that he thought Sutter would use wireless systems to deliver applications to doctors and nurses. But Hummel countered that wireless technologies couldn't handle new digital-imaging systems, making wiring closets a necessity.

–Bob Bre[illegible]in [illegible]d
Patrick Th[illegible]



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John Minnick
Manager, Technology Development, Siemens

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	Commerce Server
	Content Management Server
	Host Integration Server
Information Worker Infrastructure	Exchange Server
	Office SharePoint™ Portal Server
	Office Live Communications Server

MARYFRAN JOHNSON

Oracle's Checkmate?

IN THE HIGH-STAKES chess game of Oracle vs. PeopleSoft, federal antitrust lawyers put Larry Ellison in check last week — just two days after the database king raised his takeover bid to $26 a share in what is now a $9.4 billion offer. What started last June as a $5.1 billion acquisition gamble has nearly doubled for Oracle, with the database maker looking increasingly determined (or desperate) to buy its way into PeopleSoft's No. 2 spot in the business applications market.

MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at maryfran_johnson@computerworld.com.

The final call on whether Uncle Sam will file suit to block Oracle's acquisition plans will be made by DOJ Assistant Attorney General Hewitt Pate early next month. But the preliminary staff recommendation against the merger signals a significant setback to Oracle. Another obstacle may arise in March when the European Union's antitrust regulatory body also weighs in.

If you have a taste for irony, Ellison's predicament is a gourmet treat. After years of urging and supporting DOJ actions against Microsoft, he's likely to end up competitively hobbled by the same agency — all while struggling to position his company for future battles with the convicted monopolist. If the PeopleSoft acquisition founders, Oracle's chances of taking on market leader SAP in the $20 billion enterprise application space will founder as well.

"Oracle is slowly, slowly losing ground against its competition, both in mind share and market share, and it doesn't appear that the tide has turned," said B2B Analysts' David Dobrin ["Oracle Changes Strategy, Embraces App Integration," QuickLink 44431].

Many enterprise users lost interest in the takeover drama months ago. But in a gratifying turn of events, customers didn't end up as pawns sacrificed and kicked off the board.

Both vendors have been competing harder than ever to keep you content.

A case in point: Oracle has suddenly seen the light about providing a more open application-integration strategy, with tools coming later this year to help IT managers tie eBusiness Suite 11i software into other systems. And at the Oracle AppsWorld Conference last month, Ellison was pitching the importance of software vendors providing customers with clear, predictable costs of ownership ["Oracle Promises to Deliver Exact Cost of Ownership," QuickLink 35834].

Of course, it could be a coincidence that these user-friendly changes are popping up now. But I suspect not.

For PeopleSoft users, the initial angst about the takeover attack has been eased by the combatively protective stance taken by CEO Craig Conway. He moved swiftly to set up a rebate program so sales wouldn't stall, effectively guaranteeing customers refunds on their software purchases should Oracle prevail. PeopleSoft also wrapped up its merger with J.D. Edwards with remarkable speed. The only stumble in that friendly acquisition has been some public bickering with Quest, the J.D. Edwards user group ["PeopleSoft at Odds With J.D. Edwards User Group," QuickLink 43921].

A onetime Oracle exec himself, Conway learned from the master how to spin a story. He's been telling customers since last fall that the takeover deal is a dead issue, although that is clearly more wishful thinking on his part than reality.

With the forces of antitrust regulators gathering against him, Ellison now has to convince his own board to engage in yet another protracted legal battle. But whoever ends up in checkmate here — and I think it'll be Oracle — what really matters is how hard both vendors keep working at keeping you happy. **44736**

"CONGRATULATE ME - I'VE FINALLY ACHIEVED A PAPERLESS OFFICE!"

PIMM FOX

ERP's a Snap With an ASP

SMALL COMPANIES are finding that the technology available through ASPs can help them apply ERP techniques to their operations. By tapping application service providers for processes such as online invoicing and the tracking of sales, production and inventory, businesses are strengthening their links to customers, vendors and business partners.

At China Manufacturing Network LLC in Irvine, Calif., CEO Everette Phillips uses ASP technology to fulfill orders between U.S. customers and nearly 100 family-owned factories in China.

Phillips' precision-manufacturing division fills orders for machined parts, with his firm acting on behalf of Chinese factories that aren't set up to deal directly with U.S. customers. His company also serves as a buffer for U.S. businesses unskilled in the nuances of working with Chinese factories.

"We're like a general contractor," says Phillips. "When a purchase order comes in from a U.S. company as a PDF, we assume the responsibility for getting the product made and shipped."

That might sound easy, but it involves many steps, all of which are handled with online CRM and ERP services from San Mateo, Calif.-based NetSuite Inc.

The overall effect is a supply chain management operation linked to a sales and accounting system in which blueprints for die-cast parts are sent to Irvine, consolidated with similar orders and then e-mailed to China. Once a price has been quoted and accepted, an order for a small number of sample products is sent to China. The first run is made and delivered to the U.S. customer for approval. Whether the goods are cable assemblies or aluminum products, NetSuite makes it possible for Phillips to enter an item number corresponding to the U.S. company's internal inventory. Then the U.S. customer can

INFORMATION LIFECYCLE MANAGEMENT IS: a strategy that uses people, processes and technology to store and tap critical business data throughout its lifespan of value.

IN THIS EDITION:
See how companies are turning their new regulatory challenges into business opportunities by leveraging the benefits of Information Lifecycle Management.

Information Management Is No Longer a Luxury; It's a Boardroom Issue

WHAT'S THE VALUE OF CORPORATE INFORMATION? It depends on the lens through which it's viewed. Consider, for example, the medical records of a child in New York. To his parents, the records are a vital history of their child's health. To Daniel Morreale, CIO of the North Bronx Healthcare Network, those records also offer the opportunity to glean valuable insights on healthcare trends. And to the federal and state governments, they represent a regulatory obligation to retain that data for up to 28 years.

As the role of information grows more critical with each passing year, so do the challenges that come with managing it well. Nowhere does smart management come into play more than when it comes to complying with the thousands of regulations that mandate how companies worldwide store and manage their data.

"We all know that information can be one of the most valuable corporate assets out there," says Peter Gerr, an analyst at Enterprise Storage Group, a research company in Hopkinton, Mass. "But compliance plays a huge role. To me, compliance is really one of the driving forces behind what I see as an evolution in how we manage and think about information."

Many companies have long wrestled with the issues of internal information management, but now they must also grapple with the dictates of corporate governance and new regulations such as Sarbanes-Oxley and the Health Insurance Portability and Accountability Act (HIPAA). While it might be tempting to think of compliance as affecting but a few industries, such as healthcare or financial services, the truth is that compliance touches almost any organization that collects and manages data.

REGULATORY COMPLIANCE

KEY ISSUES MAKING THE LIFECYCLE APPROACH TO REGULATORY COMPLIANCE ATTRACTIVE

- **REGULATORY COMPLIANCE MANDATES**
- **APPLICATIONS ARE INCREASINGLY INTERDEPENDENT**
- **NOT ALL DATA IS CREATED EQUAL**
- **ONLINE ACCESS**

> "To me, compliance is really one of the driving forces behind what I see as an evolution in how we manage and think about information."
> —Peter Gerr, Enterprise Storage Group

Consider Sarbanes-Oxley, which regulates the way public companies manage their financial information. According to Gerr, the whistle-blower part of that legislation also applies to private companies. Any private company with the thought of going public must be in compliance with Sarbanes-Oxley as well, adds Roy Sanford, a vice president of markets and alliances at EMC Corp., the storage solutions provider based in Hopkinton, Mass.

"There are more than 15,000 regulations alone in the U.S at the federal, state and local levels, and about 20,000 regulations around the world that govern the use of information," Sanford says. "They touch about any organization you can think of—public, private, nonprofit, all are affected by regulations outside of the control of the organization."

Many companies have instituted internal information governance methods that must also be met as part of a new focus on corporate governance overall.

The issue of regulatory compliance challenges the traditional IT approach of storing every bit of data, because it requires a look at information across its entire lifecycle and affects everything from retention periods to deletion policy to data authenticity.

"We feel that compliance will have a huge material effect not only on how companies manage information, but also on how they think about the value and risk that information holds," says Gerr.

THE IMPACT OF COMPLIANCE

Business risk, the fear of regulatory violations and potential fines all speak to the need for compliance. "In many cases, the regulations are new and companies just don't have the capabilities in place to meet them," says Mark Lewis, chief technology officer at EMC. "Many fail to have a centralized information structure that allows for the implementation of information management policies in the first place."

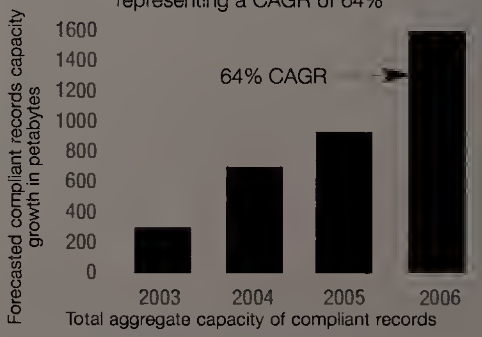
Bottom line: It's a whole new world out there for companies that rely on information, particularly as it transforms to "all digital." For many organizations, that means there's no "hard copy" to back up some information—email comes to mind—making compliance and authenticity even more difficult.

"We're almost all electronic," says Morreale of the North Bronx Healthcare Network. "It's part of the problem because we can't touch the data that's been stored in the clinical information system—can't touch, can't delete or purge." At the same time, Morreale recognizes that some of that data has outlived its regulatory value. He needs a tool that will let him discard the outdated data while keeping the rest.

Informational compliance is as much about smart content and resource management as it is about regulatory compliance. CIOs must figure out how to apportion IT resources to manage an ever-growing pool of information, some of which legally must be retained for years. The effect of accumu-

GROWTH IN STORAGE CAPACITY FOR COMPLIANT RECORDS

The capacity of compliant records will increase from 376PB in 2003 to 1,644PB in 2006, representing a CAGR of 64%



SOURCE: ENTERPRISE STORAGE GROUP, COMPLIANCE STUDY, MAY 2003

The need to meet compliance requirements will continue to grow, requiring methodologies and technologies to understand the value of information and how to manage it accordingly.

FIXED CONTENT: INFORMATION RETAINED FOR ACTIVE REFERENCE OVER THE LONG TERM

- Contracts
- Check images
- Document images
- Email & attachments
- Legal documents
- Audio conference
- Backups
- Biometric data
- Blueprints
- Books
- CAD/CAM originals
- CT scans
- Clinical trial results
- Digital evidence
- Genomic data
- Government records
- Historical documents
- Insurance photos
- Letters
- Manuals
- Monthly reports
- MRIs
- News clips
- Newspapers
- Periodicals
- Proteomic data
- Seismic data
- Spreadsheets
- Training materials
- Transcripts
- Video conferences
- Videos
- White papers
- X-rays

lating information for decades has a profound impact on how to classify, where to keep and how to recover it.

Like many CIOs, Morreale has discovered that managing information for compliance purposes is not a "store it and forget it" exercise. The value and risk of corporate information have driven him to explore a holistic process known as Information Lifecycle Management.

As detailed in earlier editions of this series, Information Lifecycle Management is not a product but a method of harnessing informational chaos.

There are a number of issues that make a lifecycle approach to regulatory compliance attractive:

- Regulatory compliance mandates that data authenticity and integrity be irreproachable. "Data integrity is key," says Gerr. "Data must be retained in its original format." Many regulations, such as HIPAA, require that the data be kept safely, too, making information security an important part of the equation.
- Applications are increasingly interdependent, pulling data sets from neighboring systems. As these interrelationships broaden, compliance at the application level becomes insufficient, making an enterprisewide ILM process necessary.
- Not all information is created equal. With the new regulatory environment, companies must protect the right data longer and recover it faster, and know when to delete it.

LINKING ILM AND COMPLIANCE

For many companies, Information Lifecycle Management offers the best means to manage regulatory compliance issues. Here's why:

- Flexibility—Information Lifecycle Management lets companies flexibly store information and move it around as regulatory needs demand. Take, for example, an audit at a financial services firm that seeks details about a particular trade—information that's stored as email. IT departments must be able to access that information quickly and relatively easily, and store it with an eye to the flexible nature of its value.
- Indexed Information—ILM ensures that companies know exactly what kind of information they have and where it is, making it simple to keep the right data for the right period of time. For companies that deal with a myriad of varying regulations, this is particularly valuable. "We need to keep information for a very long time, but we also need to know when to get rid of it because of legal mandates," says Morreale. "That's the value of Information Lifecycle Management."
- Classification—By conducting a data classification and prioritization study, companies can ensure that necessary information is placed in fixed content storage built specifically to ensure its authenticity. Many times that means calling in outside experts. "Information Lifecycle Management consultants are

> "We need to keep information for a very long time, but we also need to know when to get rid of it because of legal mandates. That's the value of Information Lifecycle Management."
>
> —Daniel Morreale, CIO of the North Bronx Healthcare Network

part of the storage companies' bench teams," says Gerr. "They have the services and tools that will help an organization classify and value their data, taking a step toward having a fully realized strategy."

- Right Storage for the Right Information—Classifying information enables IS executives to create tiered storage that matches the regulatory value of the data with the corresponding price/performance layer of storage. Again, fixed content storage is a frequent choice when it comes to ensuring corporate governance and regulatory compliance.
- Record Level Access—Information Lifecycle Management treats data at a very granular level, so CIOs get precisely the data they ask for when they need to access information for regulatory purposes. "Regulations are very specific," says Gerr. "[Regulators] look for compliant records, not volumes of records. A very fine-toothed comb needs to be in hand, and IT caretakers will be required to maintain a deep granularity." For companies facing compliance issues, getting at the information is vital, as is getting it in a timely fashion. They must be able to pull authentic data, and they must be able to get at it fast. "I'm really convinced that recovery time will eventually become part of compliance objectives," he says.
- Retention and Protection—ILM means that applying automated policies will ensure that information is kept as long as it needs to be and is deleted afterward. For example, an email archiving application will affix a piece of metadata containing a required retention period to each email, and will automatically delete that email when appropriate. "Automated policies are like a handshake between the application and the infrastructure," says Sanford. "It requires the infrastructure to be application aware, and that's what happens with Information Lifecycle Management."

KEY ATTRIBUTES FOR AN OPTIMUM REPOSITORY TO MEET REGULATORY COMPLIANCE

- **Flexibility**
- **Indexed Information**
- **Classification**
- **Right Storage for the Right Information**
- **Record Level Access**
- **Retention and Protection**

In an era of increasingly strict regulations that govern how companies must manage and store information, it's clear that CIOs must take action sooner rather than later. With the possibility of fines and other penalties for noncompliance, companies cannot afford to wait. Instead, CIOs need to implement governance strategies that work across the entire enterprise and manage information holistically.

"Part of a CIO's job is talking about the strategic value of information and teasing out what's real versus what's not real," says Morreale. "You need to understand that information is fluid and constantly adapt it to whatever regulatory changes happen, and for that you really need a big-picture target."

As such, companies must manage this task at a very high level and make sure that their compliance policies are driven by the value of the information first and foremost. For many, Information Lifecycle Management is the one answer that's couched in terms of real business value.

NEXT: *In the next part of this series, we'll look at how Information Lifecycle Management enables new operational efficiencies.*

QUESTIONS ABOUT INFORMATION LIFECYCLE MANAGEMENT?

If you've got any burning questions about Information Lifecycle Management—and how you can begin implementing such a strategy—send them to ilm_questions@emc.com. We'll answer the most frequently asked questions later in this series.

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log onto a portal and check order status using a single item number.

Once the sample run is approved, a purchase order is generated and then sent to Phillips, who creates a sales order and another purchase order for the factory in China.

Phillips aggregates orders using the "consolidate opportunities" feature of NetSuite, increasing his cost savings. He's also able to create packing slips and receive payments.

The amazing thing: This all takes place without an IT department.

Phillips once worked with large SAP systems in which controllers and IT staffers spent time and money matching item master lists with vendor files. "I used to have people doing this for me," he says. "Now there's one person to manage the T1 line for the building, with hosted e-mail and a Web site."

That leaves time to work with customers, offer competitive prices and manage independent sales reps.
44622

THORNTON A. MAY

Solve Alpha Problems

AS A FUTURIST operating in the IT leadership area, I am often asked, What comes next? What are the IT leadership milestones on our Homeric quest toward respected acceptance by C-level executives?

Two needs that must be immediately addressed come to mind.

The first is to dramatically improve our ability to identify the alpha problems facing the enterprise, to mobilize resources and to then achieve traction on those problems. The second is to persuade vendors to redirect their massively wasteful marketing expenditures to programs that add value but are independent of product and service purchases.

Alpha Problems

In society and the sciences, the word *alpha* means "primary, the most important." We all know about alpha executives, the ones at the top of the food chain. And we all know about alpha predators, the ones who eat us. In both cases, the wisest course might be to stay away.

In IT, *alpha* means something else. It's used to describe product releases that most users would be well advised to stay away from. And when it comes to alpha problems, the empirical evidence indicates that the majority of IT resources stay away from them.

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at thorntonamay@acl.com.

In their "Managing the Information Resource" program at UCLA, Moshe F. Rubinstein (who will speak at *Computerworld*'s Premier 100 Conference in March) and Iris Firstenberg talk about the huge value associated with focusing on alpha problems — the problems that matter. Greatly improving our willingness to make sure that the bulk of the IT investment is always applied to alpha problems is a critical step toward winning executive acceptance of IT and an appreciation of the value we can create.

Misspent Marketing Dollars

How many of you need another vendor-logoed T-shirt? Another coffee cup? Another fabric briefcase or tote bag? Go to any trade show or conference and you will observe that the supply side of the IT value dance (that is, the vendors) spends a huge amount of money trying to get us to consider its products and services. And when they're not giving away freebies at shows, vendors are sponsoring sporting events, golf outings and C-level feedings. (Is there some rule that says technology can't be sold unless an exorbitantly priced and ludicrously large chunk of beef has been consumed at an upscale steakhouse?)

Smart vendors are toning down their investments in such no-gain, luxury giveaways and time wasters and focusing instead on funding "shared spaces" that create knowledge and move the ball forward toward solving the alpha problems of customers and customers-to-be.

Some of the smartest money being spent is going to these programs:

- **The Center for Advancing Business Through Information Technology** at the W.P. Carey School of Business at Arizona State, which is adding huge value to Intel and the U.S. Army Information Systems Engineering Command via seminal work in the area of information management.
- **The CIO Solutions Gallery** at Ohio State's Fisher College of Business, championed by Dean Joseph A. Alutto and Carol Newcomb, director of the college's executive education program, which is setting a new standard of excellence for time-compressed collaborative CIO problem-solving.
- **The IT Leadership Academy** at Florida Community College, run by Rob Rennie, which is identifying needs and then sculpting curricula to address the IT leadership crisis.

Next time your vendor rep comes calling, ask him what shared spaces his company has created for solving alpha problems and how you can get involved. **44643**

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READERS' LETTERS

User/Vendor Dialogue Is Key

I **READ THE JAN. 12 ARTICLE** "PeopleSoft at Odds With J.D. Edwards User Group" [QuickLink 43921] and follow-up coverage from Jan. 15 and 17 with great interest. The public disclosure of the rift between J.D. Edwards user group Quest and PeopleSoft demonstrates just how delicate these relationships can be. How a software vendor treats its user group tells you a great deal about its attitude toward its customers. It can be the difference between paying the customer lip service and creating a culture that puts customer needs first.

Companies with satisfied user communities are often those with leaders, from the CEO on down, who are not only committed to but are enthusiastic about helping their customers succeed. I witnessed this firsthand in my interactions with the late Ken Sharma, cofounder of i2 Technologies. Ken genuinely believed that the voice of the end user must be heard at all levels of the company, most notably at the top. He always put the user first and was known to say, "Take care of the customer, and everything will take care of itself."

To those considering user group membership, I say, "Use the power of many to help you grow professionally and develop stronger relationships with vendors." And to those companies with user groups, I say, "Keep the lines of communication open, in good times and bad, and you're well on your way to having the respect and loyalty of your users today and into the future."

Gene Hunt
2003 chairman,
i2 User Group, Dallas

Spend Wisely on IT

SEGWAY'S VOLUMES hardly dictate a need for Oracle ["Segway's Tech Plans Look Down the Road to Growth," QuickLink 44266]. As a rule, stay with off-the-shelf accounting packages for as long as it makes sense. It's one thing to anticipate growth and something else to act upon that assumption by front-loading. And the company's CIO says a T1 line from Manchester, N.H., to Denver would cost $10,000 to $12,000 a month. I can get a T1 from San Jose to Noida, India, for $12,000 a month. This CIO needs to re-evaluate his spending habits. I don't object to outsourcing when it saves money, but without knowledgeable in-house decision-making, IT spending is more likely to grow out of control under the outsourced IT model.

Ian Chronister
MIS manager, SiRF Technology Inc., San Jose

Don't Neglect Value

BOTH Paul Strassmann and Ronald Coase make a fundamental error in their defense of IT outsourcing ["Outsourcing the IT Infrastructure," QuickLink 43847]. By focusing entirely on the costs of providing IT services, they completely overlook the most important consideration: value.

IT services do not merely consume resources; they also provide value to the activities of an enterprise. I would argue that in most cases, the most value is provided by keeping IT activity as close as possible to the activities of the business. Outsourcing deprives the enterprise of people whose knowledge, experience, skill, loyalty, innovation and creativity are essential to its survival and prosperity. Like the business process re-engineering fad, outsourcing will be found, too late, to have a crippling effect on a business's ability to apply knowledge, create value and respond quickly to changes and opportunities in the marketplace. Coase's Law should be reformulated as follows: All considerations of knowledge and value being equal, services should be provided at the lowest possible cost.

Larry Burns
Database consultant, Paccar ITD Data Services, Renton, Wash., lburns@paccar.com

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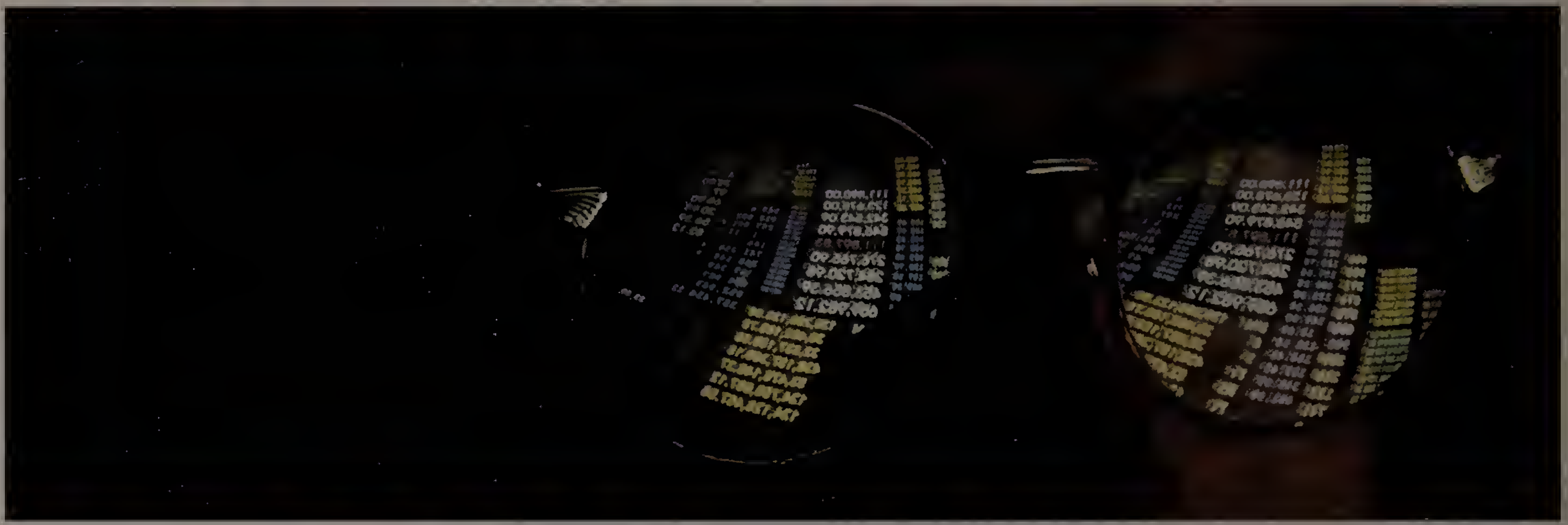
ROBUST OBJECTS
AND ROBUST SQL



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RICHARD DOWNS

Retrieval Realities

E-mail archiving is suddenly a priority, with companies motivated by rising volume, regulatory pressures and the threat of litigation to set policies and find effective technology. **BY LUCAS MEARIAN**

WHEN HURRICANE ISABEL struck the East Coast last September, it flooded the first floor of Dan Roche's Baltimore-based Web design company and threatened to leave him without access to e-mail.

"We do everything through Exchange ... all communications, sales. We do negotiations, and our whole corporate calendar is on there. You need that audit trail. I'd be devastated if something happened to my e-mail," says Roche, CEO of E.magination Network LLC, which generates about 100,000 e-mails per week.

Corporate executives understand that e-mail is no longer just the means by which company picnics are announced — it's the medium for much of their organizations' real business. They also know that government regulators see electronic communications as potential evidence that must be preserved. Yet e-mail archiving policies are often as arbitrary as requiring IT administrators to save everything on a server and then delete it after two years.

In a recent poll of 1,018 companies of all sizes by Kahn Consulting Inc. in Marietta, Ga., 84% of respondents said they used e-mail for forward-looking business planning, but only 37% said they managed e-mail relative to its content.

Not only is a delete-all e-mail policy bad for business, but regulatory agencies are also requiring many industries, such as financial services and health care, to spend IT dollars on e-mail archiving technologies that allow quick search-and-retrieval capabilities.

"All those rules that told you to keep records when you were working in a paper world now apply to e-mail," says Randolph A. Kahn, founder of Kahn Consulting, a firm that specializes in legal compliance, policy and risk management issues in IT.

Compliance Hits Home

The inability to search and retrieve e-mails in a timely fashion is what led the U.S. Securities and Exchange Commission to fine five Wall Street brokerages a total of $8.25 million in December 2002. The firms included Morgan Stanley, Goldman Sachs & Co. and Salomon Smith Barney Inc.

The SEC, the New York Stock Exchange and the National Association of Securities Dealers all require brokerages to retain e-mail traffic. The brokerages that were fined failed to preserve the e-mails for three years and/or to preserve them in an accessible place for two years.

The SEC's shot across Wall Street's bow was heard throughout the entire financial services industry.

"We were getting hints from [the legal department] that the SEC regs were going to apply to the banking side as well," says Jeff Theiler, vice president of direct banking at Hancock Bank in Gulfport, Miss.

In December, Theiler rolled out an internal e-mail archiving product for his Exchange server environment from start-up ZipLip Inc. in Mountain View, Calif. Theiler says his Exchange servers could store e-mail but couldn't keep up with the volume that a bank with 100 branches and 1,900 employees generates. "One of the requirements was that a regulator needed to be able to come in and, without a whole bunch of extra codes and steps, sit down behind a terminal and point to a file and get to it," Theiler says.

John Mancini, president of the Association for Information and Image Management in Silver Spring, Md., argues that even businesses not covered by one of the new regulatory standards should be looking at e-mail archiving to manage litigation exposure.

But companies that want the ability to search and retrieve large numbers of e-mails are finding their old direct-connect server infrastructures lacking.

EMC Corp., IBM and other storage vendors are pushing the idea of information life-cycle management (ILM), or the ability to capture unstructured data such as e-mails and manage it through a policy engine from cradle to grave.

For example, retrieving e-mail from tape storage can be an arduous task that, depending on the information's age, can cost anywhere from thousands to millions of dollars. That leads some businesses to settle lawsuits out of court rather than foot the bill for discovery if it would require retrieving old e-mails, Mancini says. But keeping e-mail staged on online disk arrays for years instead of days can speed search-and-recovery time from days or months to seconds.

E-mail archival technologies generally include an appliance with journaling software that stores all incoming and outgoing e-mails, an indexing tool and the ability to search by content, user or header.

Another feature important to any e-mail archival technology is single-instance backup, according to Peter Gerr, an analyst at Enterprise Storage Group in Milford, Mass. It ensures that duplicate attachments, such as memory-hungry PowerPoint documents, are stored only once, which saves space.

Buy or Outsource?

Purchasing e-mail archiving hardware and software can cost millions of dollars, so E.magination Network's Roche decided to outsource the company's e-mail archiving system to Evergreen Assurance Inc. in Annapolis, Md. Evergreen uses a server on the customer's site to mirror an exact duplicate of the e-mail environment, kept in a remote data center.

What to Look For

When you're evaluating e-mail archiving technology, look for a system that can do the following:

- Automatically capture all incoming and outgoing messages and all internal messages between employees, index their full text and archive them.
- Identify each message and attachment individually, while eliminating duplicate records sent to multiple users.
- Give end users the ability to search the archive via a Web client or other user interface, with a customized lexicon of specific words, terms or phrases.
- Perform automated data migration of certain records based on policy to the appropriate storage device (disk, tape or optical, for example).
- Allow personal e-mail stores, such as Exchange or Outlook .pst files (personal folders), to be migrated to the archive store as needed. This helps by relieving users of the need to do .pst file archiving and management while still allowing them to search for and retrieve their own e-mails.

Evergreen Assurance's data center backs up all of its incoming and outgoing customer e-mail messages, as well as address books and contact lists. Evergreen guarantees e-mail recovery within 15 minutes after a service outage.

"I don't think we could have built what Evergreen offered. They built up fairly sophisticated systems in terms of replication, the fail-over piece and recovery," says Roche. "We had water come through the roof of our building but didn't suffer any damage other than power outages. It was nice that I had my e-mail on my BlackBerry that was chugging along."

In contrast, Hancock Bank's Theiler says he chose to build an in-house archival system because he had concerns about complying with recent privacy legislation if he chose to outsource.

"When considered alongside all the consolidations taking place among outsourced vendors and some of the security lapses (i.e., third-party credit card vendors who have servers mysteriously disappear from their data centers), we felt it was best to have an in-house solution — so control and security was definitely a consideration," Theiler explained via an e-mail message.

Theiler says that he wanted only the bare minimum level of technology needed to meet regulatory requirements for archiving e-mails, but he also wanted the ability to expand features later in order to include encrypted e-mail for sending bank statements to customers or implement remote Internet access to e-mail accounts for internal users. He says he also liked the price he got from ZipLip. Hancock Bank currently uses ZipLip's Unified Archival software product, which starts at under $15,000 for 25 mailboxes and supports Microsoft Exchange, Lotus Domino and other major e-mail and instant-messaging systems. ZipLip sells a gateway appliance that captures all the e-mails being generated on a server and transmits them using Secure Sockets Layer encryption to a storage-area network (SAN) or network-attached storage device, based on predetermined policies.

The retention policy can be based on a domain, user or group of messages, and end users or systems administrators can determine the length of time e-mails are archived prior to deletion.

FEELING PRESSURE

E-mail volume and strict regulations are making archiving technologies crucial to businesses:

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In-house With ILM

OSF Healthcare System in Peoria, Ill., purchased an EMC Centera array for e-mail archiving as part of an 80TB multitiered storage architecture. The e-mail portion of the SAN cost hundreds of thousands of dollars but will serve an infrastructure burdened by 6 million e-mails a year, says Jim Doedtman, technical planning manager at OSF.

As part of a comprehensive IT infrastructure change-out that began two years ago, Doedtman says, he wanted an e-mail archiving system that could be indexed, eliminate duplicate copies of attachments and automatically manage e-mails and other documents from creation to deletion for 7,000 users on a Windows 2000/Exchange environment.

Doedtman is building an ILM system that will automatically move e-mail from high-end EMC Symmetrix arrays to midrange Clariion arrays to Centera servers, based on age, origination and content.

The Regulatory Pinch

Governments are increasingly demanding transparency, security and accountability in organizations' archival processes. Here are a few of the laws and regulatory bodies that are driving e-mail archiving technologies:

IN THE U.S.:

- Sarbanes-Oxley
- HIPAA
- eSignature Act
- SEC 17A (on electronic document retention)
- DOD 5015.2 (mandatory standards for records management applications)

SOURCE: ASSOCIATION FOR INFORMATION AND IMAGE MANAGEMENT

ABROAD:

- Data Protection Act (reg[illegible] the export of persona[illegible] d[illegible] the European Union)
- MoReq (EU requ[illegible]emen[illegible] managing electronic rec[illegible])
- U.K. Metadata framework
- Dublin Core/Docu[illegible] Manageme[illegible] & E[illegible] Archiving (govern[illegible] managemen[illegible] req[illegible]em[illegible]s)
- Canada's Unifor[illegible] Evidence Act
- Austria's Ev[illegible]nce Act
- The U.K. Pub[illegible]c Recor[illegible]
- Document Managem[illegible] Electronic Arch[illegible] ([illegible])

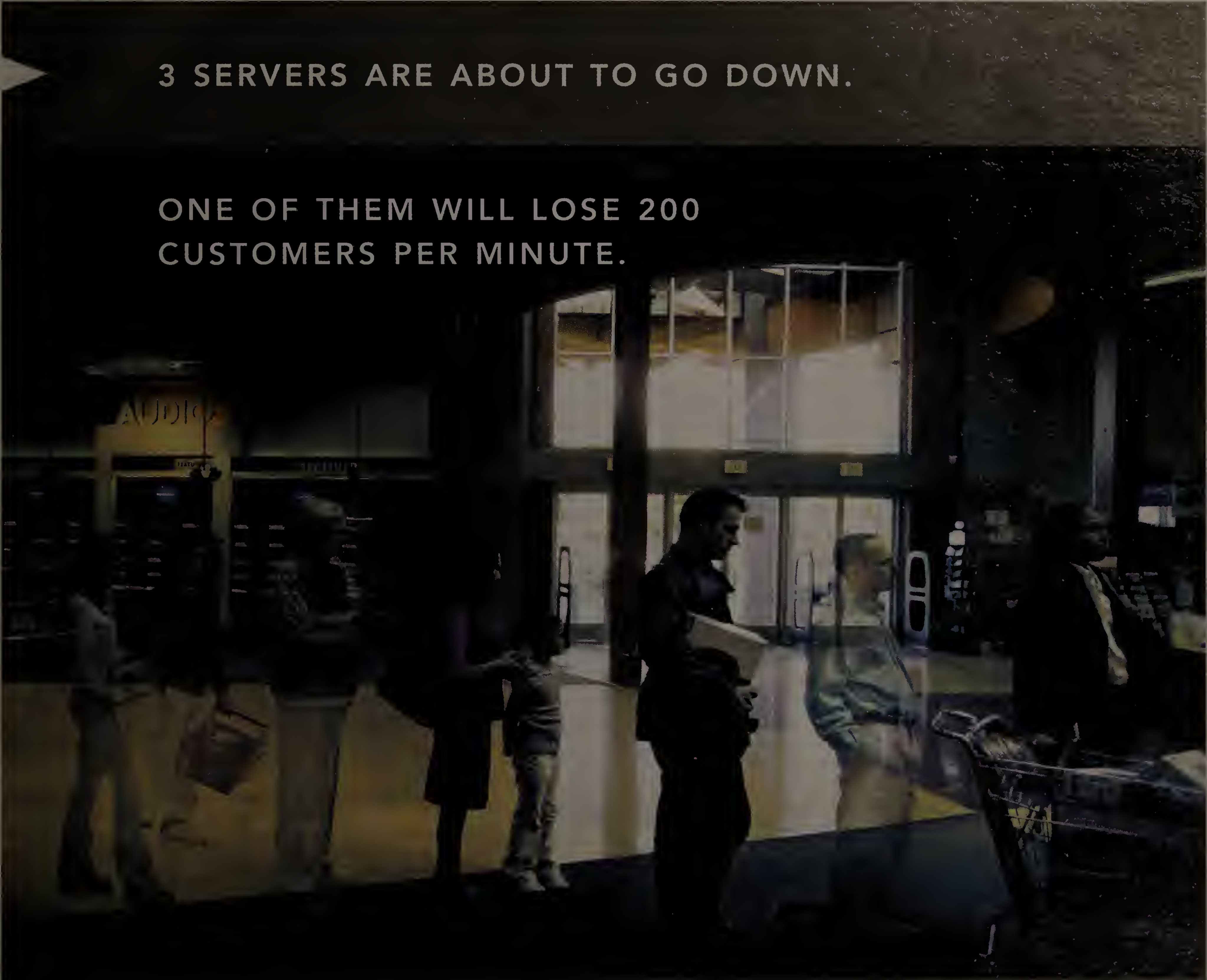
Doedtman has set a one-year e-mail retention policy, and he says an internal service-level agreement requires e-mail restores within four hours. But if a full server restore is required, it can take up to 14 hours using the current tape backup system. "We're talking 30GB to 40GB worth of data per restore. And right now we have 1TB online across 10 Exchange servers," he says.

Last year, Doedtman evaluated Legato Systems Inc.'s EmailXtender but decided to purchase an e-mail archiving product from KVS Inc. in Arlington, Texas. KVS's flagship product, Enterprise Vault, offers policy-based archiving for Microsoft Corp.'s Exchange, SharePoint Portal Server, Office System 2003, instant messages and file servers.

Doedtman plans to cap all users at 100MB of e-mail storage on Exchange servers. When users reach 90% of that limit, KVS's software will move older e-mails to the SAN. He expects a 70% reduction of storage currently on Symmetrix arrays and tape libraries, because e-mail will be stored on Centera arrays, which will automatically replicate to duplicate arrays in a disaster recovery site.

Doedtman says he's focusing on compliance with the Health Insurance Portability and Accountability Act, which will require health care providers and insurers to protect patient information and ensure its availability even after a patient's death.

"We are going to be doing journaling of e-mails, and we purchased the e-mail discovery module from KVS that, in the hands of the legal team, gives insight into all Exchange information in a very easy way," says Doedtman. "We positioned ourselves very well with this." **44512**



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BRIEFS

Bell Labs Wins DARPA Contract

The Defense Advanced Research Projects Agency has awarded the Bell Labs division of Lucent Technologies Inc. an $11.5 million contract to research, develop and demonstrate a wireless battlefield communications system based on multiple-antenna technology with data rates in the gigabit range. Bell Labs will attempt to boost performance by sending multiple transmissions on the same frequency over multiple antennas, according to Murray Hill, N.J.-based Lucent.

Bell Labs will test the technology this fall, in what it called the world's first self-forming multiple-input, multiple-output network, with 20 vehicles equipped with Bell Labs Layered Space Time mobile systems at the Naval Air Engineering Test Station in Lakehurst, N.J.

Optum Updates Warehouse App

Optum Inc. last week announced the latest version of its flagship warehouse management application, Move 7i. Enhancements include the ability to do ad hoc queries and share warehouse-related data in real time, eliminating the need for third-party reporting systems, according to the White Plains, N.Y.-based supply chain software maker. Move 7i is available now. The cost of Move 7i for the average enterprise customer is $250,000.

RedDot Rolls Out Content Manager

Enterprise content management vendor RedDot Solutions Corp. in Oldenberg, Germany, announced RedDot Extended Content Management Suite. Designed for midsize businesses, the XCMS includes tools for creating, reviewing, managing and archiving content from various sources, plus full indexing and search capabilities and more. Pricing starts at $120,000 for the complete suite.

ROBERT L. MITCHELL

Think Outside The Gates

INFORMATION TECHNOLOGY security groups continually ask how they can erect stronger walls to keep the barbarians out of their electronic fortresses. Perhaps they should be asking why there are so many barbarians in the first place.

ROBERT L. MITCHELL is *Computerworld*'s senior features editor. Contact him at robert_mitchell@computerworld.com.

The hordes at the gates aren't mercenaries but an army of unwitting conscripts. Most are consumers — your neighbors, in-laws and even your kids — who unknowingly had their computers hijacked by worms, viruses, malicious JavaScript embedded in Web pages they visited, rogue ActiveX controls and a host of other arcane mechanisms that deliver advertising and enable services that vendors are quite sure people need.

When a worm like Mydoom commandeers home PCs and creates a massive denial-of-service attack, the industry and even some tech-savvy users blame the victims for the problem. They say that consumers should have known that an e-mail with a .zip file attachment that was addressed from a friend and passed by their antivirus defenses without a problem was a worm. And that the HTML-formatted message that looked for all the world like a Microsoft Web site page was actually a phishing scam to steal their passwords, or a ploy to install Trojan horses or spyware. The attitude is, "You clicked on that? You moron!"

But let's not forget who created this mess. It wasn't the consumer. A PC connected to the Internet is quite possibly the worst consumer appliance ever invented. In fact, it's not an appliance at all. The Xbox is a consumer appliance. A PC is a general-purpose computing device masquerading as a consumer product. Peel away the colorful Windows veneer, and you have a machine that's overly complex, poorly designed for security and comes packaged with unrealistic expectations.

If you haven't tried to help a frustrated home user recently, you have no idea how bad the situation is. My teenage neighbor came to me with a laptop that wouldn't load the paint program he received for Christmas. Every time he tried to install it, the Windows Installer service would crash. In the course of trying to fix the problem, I ran up against seven viruses and more than 160 spyware and adware files. The system installation was just two months old.

I spent the better part of a day in a determined but unsuccessful effort to clean it before I finally wiped the disk and started over. As I gave my neighbor an hour-long lecture on how to avoid future problems, I saw his confused look and realized how wrong this whole situation is. Why on earth does a consumer need to know all this stuff?

The idea that consumers should configure security on PCs is ridiculous. People who mess with the confusing security settings by checking boxes or moving those silly security-level sliders up a notch are likely to find that they can no longer view some Web content. Or they'll end up being pestered by endless pop-up windows prompting them to accept cookies and ActiveX controls at every click of the mouse.

Home users have no corporate IT security manager looking out for them. The IT industry should take more responsibility for consumer security, but efforts to date have been weak and ineffective. Most recently, Microsoft put a bounty on the head of the architect of the Mydoom worm while warning people not to click on e-mail attachments.

Vendors also put the onus on consumers to install updates such as last week's highly critical ASN.1 patch (MS04-007) from Microsoft. But they forget that many people still use dial-up connections. How many PC consumers are even aware of Windows XP Service Pack 1? And if they knew about it, would they be able to download the hundreds of megabytes of files through a 56K modem? How many could find their way through the Microsoft Web site to order a CD version for $9.95?

Microsoft refers Windows XP users back to their PC vendors for support. Once there, if they're lucky, they may get a free trial offer for security software when they buy a machine, but they often find little or no guidance on security best practices.

Consumers don't want to be computer experts, and they shouldn't have to be. The legions of hijacked home PCs only compound the problem of maintaining corporate IT security. It's time to cut the sanctimonious attitude, stop expecting consumers to secure their own machines and get to work doing the job for them. When the industry takes control of the problem away from consumers, the worm creators will finally lose their drone armies. **44636**

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Nancy Snyder and others at Whirlpool debunked the popular notion that "innovation comes from a few at the top."

DAVID JOEL

INNOVATION DEMOCRACY

IT has helped Whirlpool build a supply chain of creative ideas that meet customer needs.

By Kathleen Melymuka

IN THE 1990S, Whirlpool Corp., the No. 1 U.S. appliance maker, was a model "metal bender" — an engineering and manufacturing company whose core competencies were quality and cost reduction. It sold to big retailers like Sears, and customers viewed its products as commodities differentiated only by price.

As the decade closed, Whirlpool executives, led by Chairman and CEO Dave Whitwam, realized that the industry was stagnating. They wanted to turn the company into a customer-focused innovator whose unique products would breed consumer loyalty. Whitwam had a novel idea about where that innovation would come from: everyone in the company. "He wanted to embed innovation as a core competency," says Nancy Snyder, vice president of leadership and competency creation at Whirlpool.

The idea was so different from the traditional approach to innovation — in which a strategic innovation group or "skunk works" is isolated from the pressures and bureaucracy of mainstream life — that consultants didn't believe it would work. "We talked to every major consulting firm in the world," Snyder recalls. "And all of them said, 'Don't bother. Innovation comes from a few at the top.' "

Finally, Whirlpool executives found soul mates at Strategos, where Chairman Gary Hamel told them that a democratic innovation process could be enabled by technology. Today, the Benton Harbor, Mich.-based appliance giant has more than 500 ideas in its innovation pipeline, and it's reaping the benefits with unique products (see next page).

FURTHER READING

A case study of the Whirlpool experience is available in book form: **Strategic Innovation: Embedding Innovation as a Core Competency in Your Organization,** by Nancy Tennant Snyder and Deborah L. Duarte (Jossey-Bass, 2003).

"Whirlpool changed their tune awfully quickly," says David MacGregor, an analyst at Longbow Research in Independence, Ohio. "They've done a very nice job in innovation, and that has been very important to their results over the last few years."

Innovation Infrastructure

Whirlpool's approach was to use IT to facilitate innovation much as it has been used to streamline supply chains. The company would re-engineer management processes that slow down innovation and use IT to improve and accelerate the innovation chain from idea to final product. The key was to encourage many low-cost "stratlets" (or small strategies) rather than a few big-budget projects.

To embed innovation as a core competency, people would need training, access to expertise and small amounts of seed funding, freedom to work on their ideas and a way to share information. "You begin to see the magnitude of infrastructure that has to change to support it," Snyder says. "And remember, we weren't adding on to a core competency. We were creating one that didn't exist."

Snyder put a leadership team in place that included a global director of knowledge management, three regional vice presidents of innovation and regional innovation boards (I-Boards) to set goals, allocate resources and review ideas for funding. Later, each major business unit also established an I-Board. Twenty-five people from each region were trained to serve as in-house innovation consultants, or I-Mentors.

Whirlpool built an IT intranet infrastructure called the Innovation E-Space. It starts with the "fuzzy front end" of innovation where random insights are systematically generated and shared to spark ideas. The home page links prospective innovators to all the tools and resources they need, from insight libraries and innovation templates to I-Mentors. It provides "an informal social system that works below the hierarchy level," Snyder says, "and it uses technology to enable that."

The back end is the I-Pipe, a dashboard view of the innovation pipeline adapted from Strategos. It tracks ideas from concept to scale-up and provides project details as well as the big picture, enabling management to focus on areas in need of attention. For example, a dozen innovations that deal with pricing may indicate that there's a problem in that area. In this way, says Hamel, innovators create strategy and top managers "edit" it.

The IT infrastructure didn't require an extensive investment, says CIO Esat Sezer. On the front end, Whirlpool used a Lotus Notes-based intranet and added new capabilities using collaboration tools like QuickPlace and Sametime from Lotus. For the I-Pipe, the company built a platform on its SAP infrastructure using SAP's xApps for project resource management.

Lego Blocks

Whirlpool doesn't sit back and wait for employees to innovate. Managers convene cross-sections of employees for formal innovation sessions (see below). Led by an I-Mentor, the teams reflect on customer needs, industry trends and their own experience to come up with insights. "We think of these insights as the Lego blocks of innovation," says Strategos' Hamel. "We go through a systematic process of generating insights, creating grist for the mill."

RUBBER MEETS ROAD

Representative products from Whirlpool's innovation supply chain:

- Modular garage accessories and appliances for men
- Range with refrigeration capabilities
- Customizable grills, coolers, warmers, taps, ovens and sound systems for tailgate parties
- Double-tub sink with small dishwasher on one side
- Small, bedside cooling unit for storing medicine and baby bottles
- Basic refrigerator for rural areas in India, selling for less than $75
- Premium-priced, high-tech, energy-efficient, front-loading washer and dryer

Using IT to support innovation sessions was challenging, Hamel acknowledges. "Most times when you apply IT, you're trying to bring more discipline. In innovation, you're also always trying to support serendipity and creativity — to use IT to dramatically improve the odds of serendipity happening," he says.

Serendipity happened when a team from marketing played with the concept of appliances for men. It refined the idea into a modular system of garage appliances and storage units, a business that was spun off as a very successful separate brand. Tom Arent took part in those early sessions. Now he's general manager for Gladiator Garage Works.

"At the beginning, it was just an added task, very informal," he says. "We were moving the innovation agenda forward while doing our day jobs. We sent line drawings of product concepts over the Internet. We posted our learnings on the intranet, and all the garage lovers came out of the woodwork with ideas."

Employees like Arent are expected to make time in their days for the less-demanding, early stages of an innovation project. Once they receive seed funding, their managers help them find more time to move the innovation ahead. Eventually, they may be assigned to the project full time.

Tammy Patrick, global director of knowledge management, says the thrill of achievement is its own reward, and innovators receive no bonuses or perks. "Innovators get charged up by the opportunity for exposure and the fact that someone listened to their idea," she says. "They learn new tools and meet new people, and that often opens doors in their careers."

Leadership Required

The hardest part for Whirlpool has been changing the way leaders see their roles. "Only leaders can change an environment and allow an innovator the freedom to pursue things," Snyder explains. But it requires a huge shift in thinking. "Leaders are no longer controlling, managing. Now they're removing barriers, setting up seed funds, interacting," she says. "It was very hard, and there are still a few holdouts, but it's hard to deny the change."

So far, more than 500 I-Mentors and more than 10,000 employees have been trained in innovation, and this year, Patrick is launching a mandatory e-learning innovation curriculum. Innovators have introduced more than 7,500 ideas, and the company has run more than 360 low-cost experiments resulting in many new products and strategies, some very successful. For example, the high-tech, premium-priced Duet won Whirlpool 16% of the front-loading washer/dryer market. Gladiator Garage Works has been the most significant revenue producer in a nonappliance business in Whirlpool's history.

What's next? Whirlpool is working with Cisco Systems Inc., Sun Microsystems Inc. and Siemens AG to develop "connected homes," with routers, security systems and Internet-connected appliances all consolidated into a "smart home" system.

"There's not a big market for that right now," MacGregor says. "But a lot of good ideas have come out of that, and over the next five years, things may change dramatically." If that happens, he says, "from an innovations standpoint, Whirlpool will be positioned at the leading edge." **44286**

Melymuka is a Computerworld *contributing writer. Contact her at kmelymuka@yahoo.com.*

How Whirlpool develops ideas and turns them into products.

EVOLUTION OF AN IDEA

DISCOVERY: Employees convene to discover random insights by looking at the world through different "lenses": corporate core competencies, what-ifs, social discontinuities and megatrends, orthodoxies, customer needs, corporate strategy and competition. (Examples of insights: Garages are always a mess. What if men bought appliances?) Insights are collected, categorized and added to an intranet insights library, where anyone in the company can peruse them for inspiration.

IDEATION: Employees focus on a problem or area using previously discovered insights to fuel brainstorming. They cluster insights to discover patterns and "crash" insights together to create new ideas. (Example: Men might buy appliances for use in a garage.)

IDEA MARKET: The most promising ideas are published online, where anyone can add feedback and offer help. Heads of business units troll for promising ideas related to their businesses.

BUSINESS CONCEPT: The innovator or team uses online resources to refine the idea and presents an "opportunity brief" to the I-Board. If the board sees potential, it grants seed funding – usually $20,000 to $100,000.

EXPERIMENT AND PROTOTYPE: As the idea develops, it moves through increasingly arduous toll gates to prove its potential.

SCALE UP: Only when an idea makes it to the final stage does the company invest substantial human and financial resources to scale it up for introduction to the market.

BRIEFS

Equipment Rental Company Hires CIO

NationsRent Inc., a Fort Lauderdale, Fla.-based construction equipment rental company, has named James A. Haid executive vice president and CIO. He will be responsible for the design and management of the IT infrastructure at the company, which operates 268 locations in 26 states. Haid previously held executive positions at Convergent Media Systems Corp. and PSINet Inc.

Perot Wins $40M Outsourcing Deal

Parsons Corp., a Houston-based provider of engineering and construction management services, has awarded a five-year, $40 million IT outsourcing contract to Perot Systems Corp. The deal includes software development, networking, electronic messaging, computer-aided design and support for global projects.

IT Exec Fills New Role at Shurgard

Terry Prether, a former IT executive at Attachmate Corp., has joined Shurgard Storage Centers Inc. as CIO. Shurgard is a self-managed real estate investment trust in Seattle that owns and runs about 530 properties. Prether is stepping into the company's first executive IT position, which was created as part of a restructuring of management and corporate governance.

SEC Names CIO

The Securities and Exchange Commission has named R. Corey Booth as its CIO and director of the Office of Information Technology. Booth, 33, had been an associate principal at consultancy McKinsey & Co. He will oversee and lead the development of a multiyear, strategic IT improvement plan that will help the agency's programs better serve the needs of U.S. investors.

BARBARA GOMOLSKI

When Cheap Is Expensive

MY DAD USED TO SAY, "Cheap can be expensive." He wasn't a wealthy man, but he believed in buying quality goods because, over time, they often proved to be more economical than low-cost substitutes. To put it another way: When you go for short-term savings, you often increase long-term costs. Sometimes we buy lower-cost goods because of a shortage of cash. If you have only $10,000 to spend on a car, you aren't going to get the Mercedes. However, short-term investment decisions aren't just a result of a lack of cash. Managers make short-term investment decisions for many reasons. Sometimes they're trying to meet short-term objectives, such as improving their quarterly profits, which seems to be a more urgent goal than investing for the long term. Besides, two years from now, they may be long gone and the health of the firm will be somebody else's problem.

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Shortsighted IT decisions are a particularly big problem because the consequences are inherently long term. For example, a company may buy "cheaper" PCs to save money in the short term. However, since those PCs have a life cycle of about three years, the company will be forced to live with the consequences of its decision for that long. The consequences of short-term thinking are even more dramatic when we consider that many applications have a life cycle of 10 years or more.

There are two areas in particular where short-term thinking regarding IT is going to sting many organizations in the coming years:

- **Underinvesting in IT.** Companies have been squeezing IT budgets for a few years, and in many cases, that was a necessity. While IT budget cuts may be needed, companies have to maintain some balance between cost reduction and long-term investment. Many of the IT managers I talked to during the past year were asked to make extraordinary cuts in their IT budgets. These reductions were so deep that they now need significant upgrades to their IT infrastructures and have a backlog of application development needs that they won't be able to address in the foreseeable future.

For example, many companies are still running core systems on old technology that really should be replaced. However, because of the lack of ongoing investment in IT infrastructure, many companies are finding that the infrastructure upgrades required to launch new enterprise initiatives make the efforts cost-prohibitive.

- **Offshore outsourcing.** It probably cuts costs in the short term, but not necessarily in the long term. Sending IT work offshore can be economical, but too many firms are rushing into these arrangements because they're now in vogue. Considering only hourly labor rates isn't a sufficient analysis to determine whether offshore is the way to go. IT managers must also consider communication and collaboration issues and their resulting costs, as well as risks. In many organizations, unfortunately, the decision to send IT work offshore turns into the proverbial "religious war," with IT managers taking a defensive and protective posture. This is certainly understandable, but it often fails to get the important issues on the table.

So, how do you get other executives to view IT investments in a long-term fashion? The most effective way, I'm afraid, it to provide the numbers that will show them costs over the long term. This exercise may mean providing a five-year view and performing a total-cost-of-ownership analysis on the product or service at hand.

Take the "cheaper PC" example. If an IT manager wants to demonstrate that the long-term cost of owning these PCs is actually more than it is for the more expensive units, the argument might go something like this: He could point out that the acquisition cost of the hardware is only a fraction of the fully loaded five-year costs, and then he could estimate the enormous amount of time that staffers will spend fixing the machines and ordering replacement parts to show that there are no real cost savings.

Often, IT managers are too busy or simply unwilling to put the time into doing these analyses. However, if we want our business counterparts to start thinking about the long-term implications of IT decisions made today, we have to move beyond tactical, day-to-day concerns ourselves. **44372**

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potential does not come preassembled there is no picture on the box
no instructions only pieces and you won't
know
what you have until you put them together

KNOWLEDGE CENTER
PROJECT MANAGEMENT

02.16.04

Balancing Act

Businesses that move at light speed want projects done fast, too. Here's how project managers deal with the pressure and hold the line on quality. **PAGE 36**

Surviving the Sponsor Exit

We offer 11 strategies for keeping your project on track when the business sponsor leaves. **PAGE 40**

Thieves Among Us

The best project managers have a lot of fine traits. The most useful one might be their ability to circumvent the system, says columnist Mark Hall. **PAGE 46**

ALLEN CRAWFORD / PLANKTON ART

THE Resourceful Project Manager

Today's project managers have to learn on the fly, cope with business turmoil and balance agility with quality.

EDITOR'S NOTE

SPECIAL REPORT

THESE ARE CHALLENGING times for IT project managers. The business wants new systems built yesterday to meet customer demands. IT projects have to be run through the ROI gantlet and get intense scrutiny from all corners of the company. Business conditions change midproject. And a few coding cowboys in the programming shop wish the process cops, who enforce strict adherence to the development methodology, would lighten up.

But taking shortcuts can lead to project failure, which isn't good for the business or IT credibility. So IT projects are caught between the need for speed and flexibility on one hand, and the need to follow a disciplined, successful methodology on the other.

"It's a delicate balancing act," says Jack Probst, assistant vice president of IT process and governance at Nationwide Insurance Cos. Fortunately, Probst says Nationwide's CIO, Mike Keller, explains to business leaders why IT project discipline is important. He also points to successful projects as proof that the discipline works. "That gives us some breathing room with the business community," a grateful Probst told me.

That's the way it should be: the CIO providing political cover so IT project managers can get the job done right. Which is not to say that IT projects should go as slowly as possible or get bogged down in bureaucracy. The IT department that delivers systems too late to meet the business's needs is doomed to irrelevance.

This special report will give you some ideas for keeping your projects in balance. **44472**

Mitch Betts is Features editor at Computerworld. *He can be reached at mitch_betts@computerworld.com.*

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Balancing Act

Businesses that move at light speed want projects done fast too. Here's how project managers deal with the pressure and hold the line on quality. By Thomas Hoffman

“DO MORE WITH LESS” is the mantra heard up and down the corridors at many companies. But the phrase has taken on new meaning for IT project managers. Cost-focused organizations are demanding deliverables within weeks instead of months — with functionality that offers immediate, bottom-line benefits.

But as IT managers try to apply principles of the rapid application development (RAD) approach and other agile project management methodologies, they're taking care not to forsake testing and quality in exchange for speed.

“It's an uphill battle. Everyone realizes that if you sacrifice quality today, you're going to pay for it in the future,” says Kevin Heard, a project manager at Clarkston Consulting, a Durham, N.C., consulting firm that serves the life sciences and consumer products industries. “If you focus on quality today, it will, in the long term, pay benefits — even if that leads to a slightly longer project cycle.”

The inherent conflict that exists between rapid project management and quality control “compounds itself if you work in an environment that constantly churns projects,” says Chuck Tatham, vice president of marketing and development at Changepoint Corp., an IT services provider in Richmond Hill, Ontario. That's particularly true, he says, when staff resources are spread thin and project managers need to quickly identify available skills.

“You need to emphasize people, the communication part of it, and you have to be very adaptive in your planning. Use a baseline and hold your people to that baseline,” says Margo Visitacion, an analyst at Forrester Research Inc.

On the Fast Track

IT project managers must also ensure that the project scope can be realistically achieved under a compressed time frame, adds Visitacion. Project managers say business leaders are increasingly urging them to cut corners to deliver needed functionality on time. For instance, one IT manager at a Midwestern manufacturer says he's being pressured by senior business leaders to rush an ERP implementation by bypassing critical business processes.

“There's always a lot of pressure” from executives to take shortcuts on IT projects, says Ken McLennan, senior vice president of business solutions at Fujitsu Consulting in Edison, N.J. He says project managers must be good facilitators and help business executives understand the risks of cutting corners. “If companies are seen making mistakes and that gets publicized, that could hurt their share price, so there's a tremendous balancing act going on,” McLennan says.

ALLEN CRAWFORD / PLANKTON ART

Project managers and other IT executives say they've taken steps to strike a balance between the need for speed and adequate testing and quality control. Eighteen months ago, The E.W. Scripps Co. established “an extremely abbreviated” project life-cycle methodology, called FastTrack, says Oscar de Jongh, managing director of the project management office at the Cincinnati-based media conglomerate.

With the FastTrack approach, a project's scope is laid out in a one- or two-paragraph e-mail message, followed by a checklist of repeatable, auditable processes that project teams must follow, such as defining project requirements, estimating resources and testing, says de Jongh. Those processes must be completed before a project can be closed out. The approach blends characteristics of so-called waterfall project management techniques, where tasks are laid out sequentially and designed to overlap, with two-to-20-hour time frames for project completion.

This is true even for small projects like changing the size of an advertising window on one of E.W. Scripps' media Web sites, says de Jongh, whose firm manages IT projects using software from PlanView Inc. “I've seen it all happen in the course of an eight-hour day, and it works,” he says. “It's as much about cultural change as anything else.”

Nationwide Insurance Cos. is applying an agile project management approach to an effort started in May to replace its distributed customer-facing

How to Ease the Tension

Does your project management office have a reputation as oppressive process cops? Try taking a more supportive approach. By Thomas Hoffman

FRONTLINE PROJECT MANAGERS often view the staffers of project management offices (PMO) as "process cops" whose mission is to ensure that project teams are hitting their deadlines and adhering to corporate procedures and quality-control criteria. They know that if their team isn't hitting those measures, the PMO won't sign off on the project phase.

This Big Brother view has occasionally led to latent hostility between project managers and PMO officers. "There's definitely tension sometimes between PMOs and the front line," says Jeff Collins, president of Innovative Management Solutions Inc., a Newport Beach, Calif.-based project management consultancy.

Sometimes it comes down to whether PMOs are staffed with the right people or have executive sponsorship, say Collins and other observers. Still, most executives who run PMOs say the best way to avoid tensions with project managers is to position the office as a support organization that can provide mentoring and coaching in addition to establishing project management guidelines and controls.

EVALUATE YOUR PMO

Take this online quiz to see if your project management office is on the right track:

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For instance, before The E.W. Scripps Co. established a PMO two years ago, the company's business units had always acted autonomously on IT projects, says PMO managing director Oscar de Jongh. So instead of taking a confrontational approach to IT project governance, says de Jongh, the PMO's objective was to foster project management disciplines "and manage the technology component of our business as a business.

"We certainly didn't want to go down a path of malicious compliance and have people say, 'I'm doing what you asked me to do. What more do you want?' " adds de Jongh. So if a project manager disagrees with the PMO on a requirement and wants to approach an aspect of a project differently from what the PMO would advise, "we'll allow them to," de Jongh says.

An Important Call

When Dennis S. Callahan joined The Guardian Life Insurance Company of America three years ago as CIO, "there was very little in the way of process and controls – it was an 'anything goes' environment," he says. Over the past three years, New York-based Guardian has built a PMO team and implemented a project management process, a project life cycle and an enterprisewide tracking tool to improve control. Recently, Callahan and his team made refinements to help bring the PMO, the processes and the adoption rate to the next level, including the development of a more balanced coaching and control model. They also created a PMO steering committee that included several project managers and reorganized the PMO team to mirror the IT organization's alignment with Guardian's businesses.

What You Can Do

- **Coach and mentor project managers. Don't dictate standards using a top-down, checklist-type approach.**
- **Communicate regularly. Fujitsu Consulting has established what it calls a "scrum" meeting – a 15- to 30-minute project update held at the same time every day with all key constituents.**
- **Get buy-in. Effective PMOs receive executive endorsement across all lines of business and absorb project information in the least invasive ways.**
- **Try to measure the success of the PMO through a customer satisfaction survey, reflecting that the organization is adaptive and flexible.**
- **Create a PMO steering committee that includes frontline project managers.**
- **Market the benefits of having a PMO to the stakeholders.**

Now a PMO manager works directly with specific senior business systems officers, helping to create a deeper partnership and business focus. And in September, Guardian's five-person PMO made a small but important change in how it alerts project managers if they've forgotten to complete a time sheet or classify the project in question.

Instead of e-mailing project managers and copying business officers, the PMO now calls project managers first to discuss and resolve compliance issues. Guardian's project teams have improved their rate of compliance by 70% since the new alert system was launched, says Shelley McIntyre, second vice president of the PMO and application development.

In the District of Columbia, which established a PMO for a multiplatform ERP system in January 2002, the office was designed to both oversee the project "and be an integral part. So the philosophy right away starts to ameliorate any tensions between the PMO and others," says Sandy Lazar, director of key systems for the city.

The ERP project includes contributions from multiple constituents, including city IT workers as well as vendors such as Unisys Corp., BearingPoint Inc. and Boston-based Keane Inc., which set up the PMO, says Lazar. "If you came to one of our meetings, you wouldn't know who were district employees and who were contracts, and which were contractors for Keane or Unisys," he says. "Everyone leaves their badges at the door."

Communication goes a long way toward easing tensions, but collaboration tools and other technologies can also help. At Fox Filmed Entertainment in Los Angeles, a portfolio management package from Niku Corp. helps provide oversight, time tracking, collaboration and document management to support a project management methodology from the PMO, says Doug Goetz, executive director of IT project management.

Goetz says he could try to enforce the use of the PMO's methodologies and standards throughout Fox's business divisions. But because there's a subset of about 30 project managers at Fox business units who don't work directly for Goetz, "we tried to make the tools useful enough so they'd be appealing to use," he says. **43741**

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systems for its property and casualty insurance agents, says Jack Probst, assistant vice president in the office of IT process and governance at Columbus, Ohio-based Nationwide. Rather than roll out a new set of systems to all 25,000 agents at once, Nationwide is applying a proof-of-concept approach, testing pieces of functionality with selected agents before extending prototypes of the system across the country.

The project draws upon a quality-focused framework that Nationwide began using in 2003 called Solution Delivery. The framework, based on IBM's Rational Unified Process methodology and an agile project management approach, has delivered marked quality improvements, says Probst. For instance, tests of customer-facing systems being implemented in various states have shown that the systems have achieved or exceeded the quality equivalent of CMM Level 5, a set of software development standards set by Carnegie Mellon University's Software Engineering Institute.

Probst says Nationwide plans to begin auditing its projects by the end of March once it has incorporated portfolio management software from Redwood City, Calif.-based Niku Corp. into the Solution Delivery framework.

Dice and Deliver

Sometimes necessity really is the mother of invention. For Primary Industries and Resources SA (PIRSA), an economic development agency within the Government of South Australia, a waterfall approach to replacing 20 legacy systems with the Primary Industries Information Management System (PIIMS) was taking too long and wasn't able to deliver the business requirements sought by end users, says David Blair, director of information services at PIRSA in Adelaide.

So PIRSA, which began developing the Unix-based system in late 2001, decided along with project partner Fujitsu Consulting that it would complete the core system using a waterfall approach and then develop additional functionality using a RAD methodology.

After completing the core system in June 2002, PIRSA and Fujitsu broke the project into features that they could deliver to end users each month, starting in November 2002, such as tracing the origins of diseased animals for the Animal Health business unit, says Vanessa Beer, a Fujitsu consultant.

Using the RAD approach, end users "are able to see and touch the system all the time, and they're constantly being trained on the new features," says PIIMS project manager John Cock.

And by shifting from the waterfall approach to the RAD technique, says Beer, "developers were delivering exactly what the businesses required, and there was no documentation hurdle between them. They didn't get hung up on, 'This is what I want, and you didn't deliver it.' "

Joe Zucchero, executive vice president and director of the project turnaround practice at The Casey Group, an IT services firm in Parsippany, N.J., says the chief contributor to a drop in project quality is overworked team members. "If you have people working 60 to 70 hours a week over a period of time, quality is going to drop," says Zucchero. "Savvy organizations understand that, and they're not always going to plan a best-case scenario."

For Heard and his peers at Clarkston Consulting, skimping on quality isn't even a consideration. "In any FDA-regulated environment, quality cannot be compromised . . . even if that leads to a slightly longer project cycle," Heard says. **43742**

TAKING PROJECTS TO THE EXTREME

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In the Trenches

Learning by doing beats by-the-book project management any day, say these managers. By Julia King

CAREERS IN THE COURSE OF HIS CAREER as a software developer, project manager and now acting IT director at the Corporation for Public Broadcasting (CPB), Mark Reilley has seen all of his employers repeat the same mistake of choosing a star technical expert or a bored but deserving functional manager to take on the new challenge of project management.

"Project management tends to be viewed as a reward, rather than choosing the best person for the job," Reilley says.

John Kocon, project management officer at Oregon Health & Science University in Portland, agrees. "Even a person with great technical abilities will not be successful as a project manager without having business knowledge and communications skills. They may have strengths in one area, but they can't have significant weaknesses," says Kocon.

A variation on this mistake is relying on project managers who look great on paper, with dozens of training courses and even certifications to their names, but no real horror stories and lessons learned that they can apply to the project at hand.

"I've had some real bad experiences with people who are certified. They may go by the book, but that doesn't mean a whole lot to me," says Jann Davis, director of systems development and asset management and a former project manager at PacifiCorp, an electric utility in Portland, Ore. "By emphasizing certifications, then choosing and training the wrong people, we set them up to fail," Davis says.

By contrast, true excellence in project management is best learned and then applied repeatedly on the job, not in a classroom, say veteran IT project leaders with track records of success. Here is a compendium of some of their most valuable lessons learned.

LESSON 1 Be a Collector of Stories

In his more than two decades of leading projects in hardware, software, research and application systems, Alistair Cockburn has come to view successful project management as a process of solving predictable problems as well as surviving worst-case scenarios by applying one or more strategies that worked on previous projects. That necessarily means learning by doing, says Cockburn, who has never received any formal project management training but has managed multimillion-dollar IT projects for large companies, including IBM and the Central Bank of Norway. He's also author of two project management books, *Agile Software Development* (Pren-

> **"Even a person with great technical abilities will not be successful as a project manager without having business knowledge and communications skills. They may have strengths in one area, but they can't have significant weaknesses.**
>
> **JOHN KOCON**, PROJECT MANAGEMENT OFFICER, OREGON HEALTH & SCIENCE UNIVERSITY

ROBBIE MCCLARAN

Oregon Health & Science's JOHN KOCON advises project managers to work in as many IT positions as possible.

tice Hall, 2002) and *Surviving Object-Oriented Projects* (Addison-Wesley, 1997).

"A core part of the job of project manager is coming up with inventive ways to get out of incredibly constrained situations by an escape route that worked before," Cockburn says. In one project he managed, his team was required to deliver new software every three months. The challenge was that it took more than half that time to gather and nail down users' exact requirements.

The solution, which he calls the "gold rush" strategy, was for programmers to begin writing code as soon as they received even partial verbal descriptions about what users wanted. That way, the project continued to move forward, even though refinements were made continually. Cockburn says he used the same strategy on several other projects at a time when incremental software development wasn't nearly as standard as it is today.

How to Choose And Groom Great Project Managers

- **LOOK** for experience, which trumps education and certifications.
- **SEEK** out calculated risk-takers.
- **EXCHANGE** project management war stories with peers.
- **CREATE** a library of real-life project management problems and their solutions.

In another case, Cockburn was up against a tight deadline and having a problem finding people with the right mix of skills to deliver the project on time. His solution was to develop a grid that graphically laid out the required and available skills and then to break the project into stages that coincided with technical experts' availability.

"A lot of project management is collecting a lot of these little strategies," Cockburn says. "It's about knowing situations and how to buy your way out of them." The best way to gain that knowledge is to seek out other project managers and listen closely to their stories. "Start a project managers' club, and once a month have a brown-bag discussion group where you can collect stories," he advises. "Project management is all about doing what has worked before, but a lot of these strategies aren't obvious."

Knowing how to buy your way out of sticky situations, of course, requires prior experience in doing so, notes Kocon. "That's why the ideal path to project management in IT is having the opportunity to work in several different IT positions," he says. "Maybe you start with coding and testing, then work your way to managing and into a supervisory role. It's also important that you have business responsibility for things like budgeting. A knowledge of the IT organization and how IT fits into the overall organization to make it successful is critical."

LESSON 2 Follow Your Instincts

Before Reilley packs for any trip, he makes a list of the days he'll be away, what he'll be doing on those days and what he'll need to wear in each situation. He works jigsaw puzzles from the edges inward. He applies the same kind of systematic thinking to managing IT projects in his role as acting IT director.

"To me, project management is the way you think," Reilley says. At Washington-based CPB, "we look at everything as a project with a discrete beginning and a discrete ending. The only way to get it done is with steps in between. It seems to me a mind-set, rather than a skill," he adds.

Still, beyond the mind-set, Reilley says he has acquired most other necessary skills, such as ferreting out disgruntled users and coming up with diplomatic solutions to nagging problems before they become full-fledged crises.

"I keep my ear to the grapevine for grumbling, so I can head off problems at the pass," Reilley says. One of his tried-and-true tactics is to address a user's doubts about a particular project or resistance to using new software before the user makes it known publicly. "I head for them right off and tell them I heard they had doubts about the project. I offer to answer their questions and show them a demo," he says. "I've learned from experience that, usually, if end users don't want to adopt a system, it's because they're afraid they'll look dumb, not because they hate the system."

And, Reilley says, there's a certain salesmanship and a lot of psychology involved with performing the project management job well. "You're selling change to end users and to bosses. You also have to be a cheerleader for the team and get to know what motivates people to perform," he explains.

A project manager has to do all of this and at the same time not get too involved in any one step in the overall process. "The biggest thing is, you have to be able to step back and comprehend the whole thing," Reilley says. "As a project manager, you have to keep the big-picture view."

LESSON 3 Follow the Money

Good project managers must by nature be ultracompetent multitaskers who pay keen attention to detail and consistently follow up on even the smallest problems and their resolutions. But frequently, the job boils down to the twin issues of politics and finances, says PacifiCorp's Davis.

Davis' most recent successful project leadership job was managing Project Discovery, a $10 million customer service and call center initiative. The key to bringing the project in on time and on budget was keeping her team members motivated, which meant shielding them from politics that can cause resentments and slow progress. "A project team trusts you as the project manager to keep them informed at a high level, but not mire them in details," Davis says.

The other practical tip she has is to personally manage all project finances, no matter how large or small. "Once people know that someone at the top is looking, all the little lunch and dinner charges start to disappear," Davis says.

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FAST TRACK INTO MANAGEMENT

If you have technical know-how and an eye on a career in management, becoming a project leader is a logical step. Find out how two project leaders made the move up:

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People Skills Pay Off

In a previous job as a consultant at Cap Gemini America LLC, John Reaves went through a comprehensive project management boot-camp program that among other things, involved learning all about critical paths, Gantt charts and business processes.

In a subsequent job as an engagement manager at General Electric Co., he received training in Six Sigma quality processes and the corporate giant's own renowned project management methods and metrics.

But Reaves, now a senior IT project manager at Wachovia Corp. in Charlotte, N.C., says he honed his most valuable project management skills – navigating tricky politics and relationships and communications – on the job, not in the classroom.

"The project manager is that individual who the CIO beats up on, the business manager beats up on and the team beats up on. What I learned in the trenches is to manage all of those respective relationships. You have to go in with a thick skin," Reaves says.

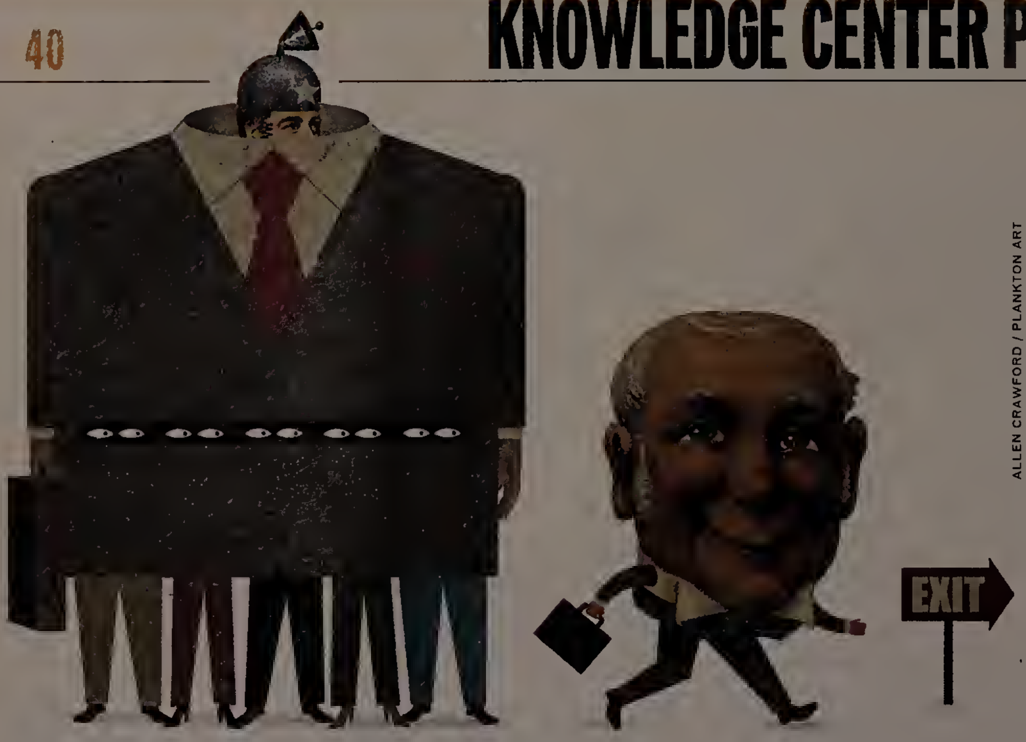
An ability to quickly read and resolve emotionally charged situations and to take calculated risks are also high on his list of skills fine-tuned on the job. Reaves recalls one particular horror story in which he was brought onto a project that was late, $1 million over budget and with a client who was ready to sue Reaves' employer.

The first thing he did was carefully read the project contract, combing it for rhetoric that could be used as leverage to buy more time. He then reviewed all the deliverables with the client and began negotiating new delivery dates for specific pieces of the project.

Three months later, the one-year project, which was renewable for five years, was back on track, and the client renewed with Reaves' company for each of the contract's subsequent years.

"I looked at the contract, saw some deliverables that weren't due immediately so I could shift resources to work on the stuff that was due," Reaves explains. "It was a calculated risk. Today, I continue to take so many calculated risks that I wonder if I'll be employed tomorrow. But that all comes with the territory."

– Julia King



ALLEN CRAWFORD / PLANKTON ART

Surviving THE Sponsor Exit

Here's how to keep your project on track if your executive sponsor leaves. By Kathleen Melymuka

"OF ALL THE ITEMS that can go wrong on a project, the one the project manager has least control over is the sponsorship," says Gopal Kapur, president of the Center for Project Management in San Ramon, Calif. Surveys show that when an IT project goes bad, there's a good chance that loss of the business sponsor was at least partly to blame.

The project sponsor is the executive or manager with the fiscal authority, political clout and personal commitment to see a project through. But what if you lose him to another job or another company? What if he's fired, loses interest and gradually withdraws, or was never really on board from the beginning? There are plenty of things you can do to keep the project on track, and if you've got skills and moxie, you might even turn the crisis into an opportunity. Here's how:

PLAN AHEAD. Make sure your project has widespread support in the company. "Do enough homework on the front end so more than just the sponsor believes in the project," says Catherine Tomczyk, a project manager at First Data Corp. in Greenwood Village, Colo. Otherwise, she says, if the sponsor leaves, "you no longer have any backing, and your project can go down the tubes."

PREPARE TO ESCALATE. Talk with your sponsor early about the procedure you'll follow if you're not getting the support you need from him. Then write it up for the project notebook and give a copy to him. "That protects the project manager and warns the sponsor," Kapur says. Tomczyk includes an escalation policy in her project plan and communicates it to everyone involved. "I list who I'll be going to if I don't get an answer from a sponsor in 48 hours," she says.

USE IT. When a sponsor underperforms, don't back down. Put the plan in action. "I usually end up going to the [senior vice president] level once," Tomczyk says. "Then everybody gets it."

CONSIDER EUTHANASIA. When the sponsor leaves, assess the political situation. "If the project begins falling apart because one person left, was it really a valid project?" asks Jim Highsmith, director of the agile project management practice at Cutter Consortium in Arlington, Mass. If other executives start backing away, the project may have been the sponsor's pet rather than a true business priority. In that case, he says, you're better off killing it than letting it drag you down.

USE YOUR RESOURCES. If the project is legit, ask the outgoing sponsor to arrange a three-way meeting with the incoming sponsor to pass the torch and get the new guy up to speed on project issues. If the sponsor has left abruptly, slow the project down and call an emergency meeting with key stakeholders, your project steering committee and your project champion to recruit a new one. Make it clear, Kapur says, that without a sponsor, the project will have to be suspended or canceled within a few weeks as your team reaches points where a sponsor is needed.

RESIST NEWBIES. Be wary of a sponsor who is new to the company. He may lack the political clout you need or have other fish to fry. "If you're in a critical phase and your project isn't the highest thing on the new sponsor's priority list, that can be very difficult," says Highsmith.

REQUIRE A "SINGLE THROAT." Don't allow your steering committee to take over sponsorship. "Often nobody really has that 'single throat' accountability — the person you grab at the throat if something goes wrong," Tomczyk says. "If a group makes the decisions, trying to get them to come to consensus can immobilize a project."

STEP UP. "Don't go into victim mode. Save that for your therapist," Kapur says. Assess your own skills and offer to take on as many sponsorship duties as you can to extend the project for a few weeks while a sponsor is found, he advises. "Just tell [stakeholders and others] there are four options: suspend, cancel, get another sponsor, or delegate authority to me, and I can begin to do these things." Then find a top-level stakeholder as a mentor and ask for help.

MAKE IT OFFICIAL. If you take over as interim sponsor, don't just sidle into the job. Make it official. Otherwise, Kapur says, "people will ask who died and made you the king, and they won't listen to you."

RE-FORM, RESTORM. No matter who takes over as sponsor, kick off the project again. In the project lexicon of "form, storm, norm and perform," Tomczyk explains, a team forms, then goes through a "storming" period where people figure out their roles, then normalizes and begins to perform. When a sponsor leaves, team members may expand their roles to compensate.

Virginia Robbins, director of IT at Chela Financial Resources Inc. in San Francisco, saw this when a woman on the team began taking over some duties that a subpar sponsor wasn't doing. When a new sponsor arrived, Robbins re-formed her team, and the new sponsor re-established the original roles. "He had to look her in the eye and state that he would take on these duties," she recalls. "Then we had to reaffirm the vision for the project. He assessed the work, refocused the folks and cleared the decks." Re-forming the team "feels like a waste of time," Tomczyk acknowledges, "but every time I've tried not to do it, I got burned."

The Sponsor's Role

"Sponsorship is not a spectator sport," says Gopal Kapur, president of the Center for Project Management. A good IT project sponsor commits political capital as well as resources and personal time, Kapur adds. The sponsor should be able to make 80% of all decisions without approval from higher-ups. Other roles and responsibilities include the following:

- **Making sure the project manager and the team have the skills necessary to manage the project**
- **Providing guidance for key business strategies**
- **Understanding the project's complexity**
- **Empowering the project manager**
- **Championing the project and the team**
- **Formally managing the project's scope**
- **Approving plans, schedules and budgets**
- **Ensuring sustained buy-in**
- **Clearing roadblocks**
- **Ensuring timely availability of resources**
- **Reviewing the project's progress**
- **Ensuring that project benefits are realized**

GO FOR IT. The loss of a sponsor gives the seasoned project manager a chance to stretch. "That's how promotions get done," Kapur says. "Step up to the plate, do a Hail Mary and see what happens. Otherwise you're losing a great opportunity." **43737**

Melymuka is a Computerworld *contributing writer. Contact her at kmelymuka@yahoo.com.*

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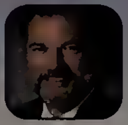

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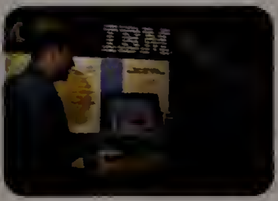

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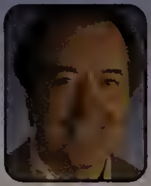

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Dan Gillmor is technology columnist for the San Jose Mercury News, Silicon Valley's daily newspaper. He also writes a daily Web-based column for SiliconValley.com, a KnightRidder.com site that is an online affiliate of the Mercury News. His column runs in many other U.S. newspapers, and he appears regularly on radio and television. He has been consistently listed by industry publications as among the most influential journalists in his field.

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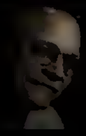

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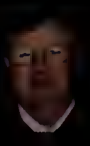

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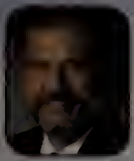
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12:00pm	Pre-Conference Golf Outing
1:30pm	Concurrent Industry Pipelines and Technology Workshop: 1:30pm – Industry Pipelines (8 sessions, 30 minutes in length) 3:30pm – Technology Workshop (90 minutes in length)
7:00pm	Welcome Reception

TUESDAY, MAY 25

7:00am – 8:00am	Buffet Breakfast
8:00am	Welcome and Opening Remarks
8:15am	Opening Keynote Presentation
9:00am – Noon	General Sessions
Noon	Networking/Birds of a Feather Luncheon
1:30pm – 5:30pm	General Sessions
3:30pm – 5:00pm	Concurrent Breakout Sessions
5:30pm	Solutions Showcase & Expo with Buffet Dinner

WEDNESDAY, MAY 26

7:00am	Buffet Breakfast
8:00am	Opening Remarks
8:15am	Opening Keynote Presentation
9:00am – Noon	General Sessions
Noon	Solutions Showcase & Expo with Buffet Lunch
1:30pm – 3:00pm	Solutions "Show Off" – On-stage Demonstrations
3:00pm – 5:00pm	Concurrent Breakout Sessions
6:00pm	Gala Evening

THURSDAY, MAY 27

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8:30am	Workshops
11:30am	Conference Concludes

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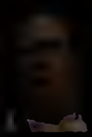

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- ☐ VP/GM/Director
- ☐ IS/IT Director/Manager
- ☐ Other IS/IT Department Manager/Supervisor
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Number of employees in your entire organization (ALL locations):
- ☐ Over 10,000
- ☐ 5,000 - 9,999
- ☐ 1,000 - 4,999
- ☐ 500 - 999
- ☐ Under 500

What is the estimated annual revenue of your entire organization?:
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- ☐ $1 Billion - $9.9 Billion
- ☐ $500 Million - $999 Million
- ☐ $100 Million - $499 Million
- ☐ Under $100 Million

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- ☐ $500 Million - $999 Million
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- ☐ $10 Million - $99 Million
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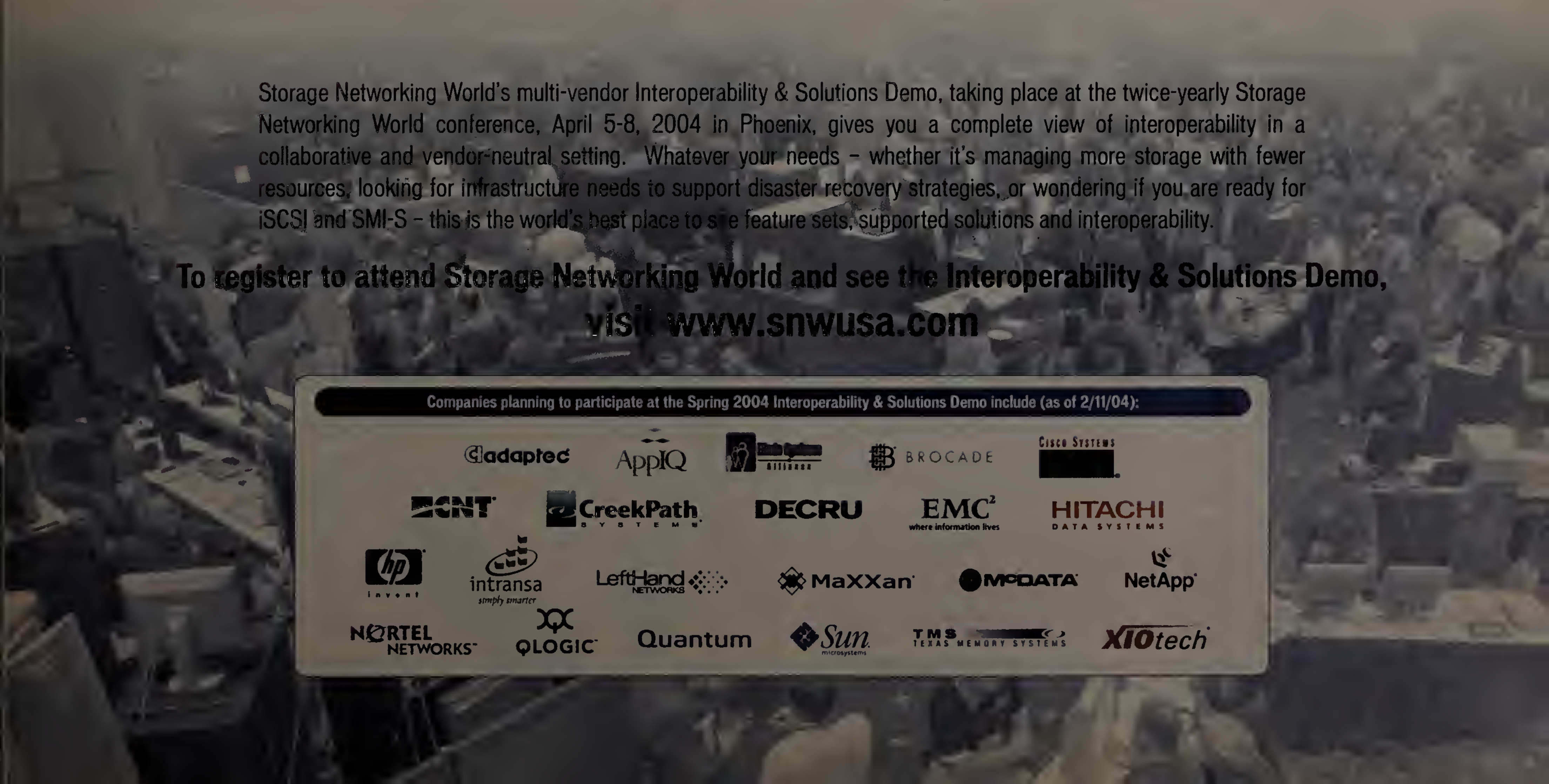

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The Almanac

An eclectic collection of research and resources. By Mitch Betts

Failing to Learn From IT Mistakes

Examples of corporate IT project failures are well known, from AMR Corp.'s Confirm reservation system to Hershey Foods Corp.'s ERP meltdown. The reasons are well known, too — from technology and financial shortcomings to a lack of end-user and management support. All of this is cataloged in the book *Software Development Failures*, by Kweku Ewusi-Mensah (MIT Press, 2003).

What's new is the author's examination of a subset of IT failures: abandoned projects. These are IT projects that were partially or completely abandoned before implementation — often in the coding/testing phase. In other words, they got pretty far along before someone figured out that they needed to pull the plug.

What's especially distressing is that IT organizations continue to make the same mistakes on subsequent projects. Most of them conduct post-mortem reviews to identify what went wrong and why, which is good news. But the author's research shows that half of them don't keep records of the lessons learned, and even those that do keep records don't make good use of them for new projects, so they're doomed to repeat past mistakes.

This book recommends a "triangulation strategy" for postabandonment reviews, using questionnaires, structured interviews and archived records to figure out why a project failed. But the most useful question of all may be, "What are the most important things you would point out to your manager or your staff if you joined a similar project in the future?"

Why Wait Until The Project Ends?

As good and important as retrospective project reviews are, they obviously come too late to do any good for an already completed (or abandoned) project. That's where "project introspectives" come in, says Lynne Nix, a senior consultant at Cutter Consortium in Arlington, Mass.

"The project introspective allows the project team to assess what is and is not working and to make midcourse corrections," Nix wrote in a recent bulletin. The goal is to revisit the original assumptions about features, resources and schedules, which undoubtedly have changed now that you have some real-world experience.

At what point do you get introspective? Nix says the reviews should be done at the conclusion of each development iteration or when there's significant change in the project scope.

Three Tips

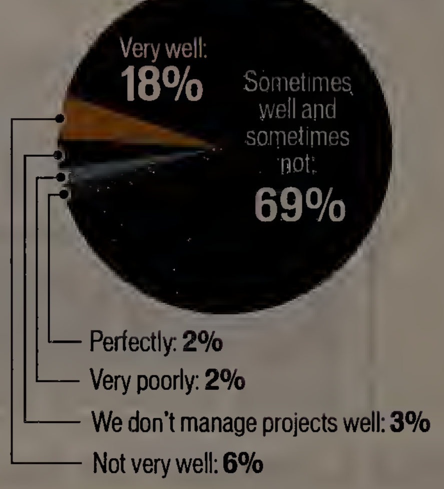
ABOUT: Program management offices (PMO)

FROM: Eric Gioia and Tricia Davis-Muffett, executives at Robbins-Gioia LLC, a project management consulting firm in Alexandria, Va.

- Keep the PMO separate from the project development team so it can play an "honest broker" role and objectively point out problems. The PMO should report to the CIO.
- Make the PMO a knowledge management function that collects information on what really happened on previous projects and feeds that information into new projects.
- Know how long it *really* takes to accomplish a task in your organization — not in some idealized situation — so you can develop realistic schedules.

Inconsistency Rules!

How well do you think your company manages projects?



BASE: 120 corporate project managers attending the Project Management Institute 2003 conference in Baltimore

SOURCE: ROBBINS-GIOIA LLC, ALEXANDRIA, VA., SEPTEMBER 2003

Harrah's System For Early Warnings

One challenge for IT managers is getting an early warning of project problems, especially if team members aren't comfortable raising red flags. Harrah's Entertainment Inc. in Las Vegas addresses that issue in the following ways, says Heath Daughtrey, vice president of IT services.

- Managers meet weekly and review a two- or three-page dashboard of performance indicators to see whether a project is on target and on budget.
- IT conducts detailed quarterly reviews of the top 10 projects.
- IT has a culture that "embraces visibility" and isn't punitive about identifying risk factors. Actually, "identifying a risk is the *best* thing that a project manager can do," Daughtrey says.

Also, about a year ago, Harrah's installed software from Niku Corp. in Redwood City, Calif., to better manage its huge portfolio of IT projects. The software provides visibility into how projects are performing and helps managers make sure the right people with the right skills are on the projects, Daughtrey says. **44471**

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- Make reasonable changes to requirements.
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- Have ready access to project deliverables.

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- Approve labor and schedule estimates for any work they're asked to perform.
- Have the project's status reported accurately to customers and upper management.
- Work in a productive environment free from frequent interruptions and distractions.

SOURCE *SOFTWARE PROJECT SURVIVAL GUIDE* BY STEVE McCONNELL (MICROSOFT PRESS, 1997): REPRINTED WITH PERMISSION

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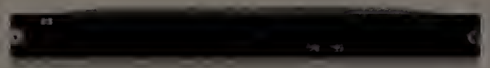

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SNAPSHOTS

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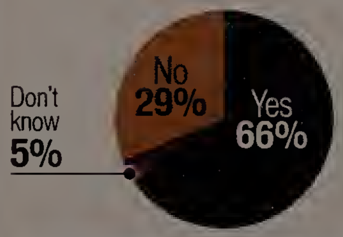


BASE: 120 corporate project managers attending the Project Management Institute 2003 conference in Baltimore

SOURCE: ROBBINS-GIOIA LLC, ALEXANDRIA, VA., SEPTEMBER 2003

Project Problems

Project managers say these are the top five problems facing their organizations:

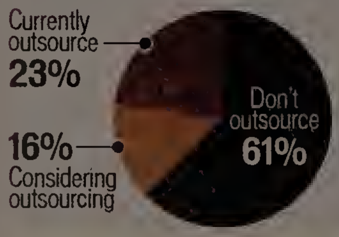
1. Inconsistent approaches to managing projects
2. Difficulties in allocating resources
3. Too many projects, or not the right projects
4. Economic pressures (such as ROI metrics)
5. Tie: Projects that are late and over budget; limited visibility into activities

BASE: Survey of 74 corporate project managers who are subscribers of *Projects@Work* magazine

SOURCE: CENTER FOR BUSINESS PRACTICES, RESEARCH ARM OF PROJECT MANAGEMENT SOLUTIONS INC., HAVERTOWN, PA., FEBRUARY 2003

Farming It Out

Percentage of organizations that outsource project management:



BASE: Survey of 74 corporate project managers who are subscribers of *Projects@Work* magazine

SOURCE: CENTER FOR BUSINESS PRACTICES, FEBRUARY 2003

MARK HALL

Thieves Among Us

SHOULDERING PROJECT MANAGEMENT responsibilities isn't for the average Joe or the fainthearted. It requires people who have a relentless, or one might even say obsessive-compulsive, attention to detail. They must also be thick-skinned individuals, willing to withstand verbal barbs, insults to their genealogy and possibly some old-fashioned assault and battery from people tired of being prompted for their part of the project.

"It's a tough job with long hours and stress that needs someone who's a cross between a ballet dancer and a drill sergeant," says Richard Murch, author of *Project Management Best Practices for IT Professionals* (Prentice Hall PTR, 2000).

I think there's one more trait to look for in great project managers: They must be a tad bit larcenous.

That trait comes in handy when using project management tools. First-tier project managers know when to override or ignore thresholds on deliverables. They know how to beg, borrow and steal other resources without accounting for them. They know when and where to overspend. And they know how to spin the details to upper management. In other words, they can cheat and get away with it.

Murch, like many others, would vigorously disagree with me. He argues that today, project management tools and exacting training programs make project management a serious, proven discipline that will reap significant ROI. The field is populated by serious, professional practitioners who use tools and techniques in a highly rigorous and logical fashion.

I don't disagree. Without a well-conceived and well-run project management system, an organization, especially a large one with many ongoing projects, will devolve into chaos. But the best project managers aren't single-minded about the tools they use or even the business processes involved. Slaves to project management systems often make excellent workers on a project team, but they tend to be lousy managers.

I developed this theory in my past life as director of the largest independent PC-testing lab in the U.S. We ran lots of projects — some large, some small, some straightforward and others mind-bogglingly complex. Some projects took a couple of days; others would run for months. Every project had its constituents. Some you liked to work with. Some you didn't.

Each project was assigned people with an array of talents. And each had its manager, budget, deadlines and copious reports.

Every project also had its bumps in the road, crises, angry encounters, wholesale catastrophes and even the occasional lawsuit — not necessarily in that order.

We used many tools to oversee projects. And we created new ones when necessary. We had countless meetings about process and then codified agreements into project management systems.

Despite all the pain and anguish, projects did get done. And I noticed that the highest completion rates and deadline achievements were those projects whose team leaders understood the value of skullduggery.

For example, testing new software, operating systems or networks usually involved standard-configured clients and servers. While a technician ran a benchmark or an application suite for compatibility or performance data for one project, a clever project manager for another effort conned that technician to run a different benchmark on a nearby test bench. Instantly, that manager's project got new resources, and the tracking system never knew a thing.

MARK HALL is a *Computerworld* editor at large. Contact him at **mark_hall@computerworld.com.**

One might argue that the data on one or both of those tests was flawed because resources were used and not factored in. So you can bet when I heard about the fellow's practice, I called him into my office and asked him how he dared do such a thing. Then I suggested that he instruct other project managers on how to leverage the idle time of other testers and continue to bypass the system.

Another project manager was known to get his team together after hours and physically move machines from one test area to another to bulk up the test loads for server evaluations. In theory, the team would sneak the purloined systems back in during the wee hours of the morning. But not everything was always properly reconnected, and there was grumbling among the less-resourceful project leaders.

Yet once uncovered, the wisdom of the thievery became obvious. So we built mobile testbeds with prewired clients and servers that could be easily added and removed from any test area. It saved us money and improved completion rates.

So the next time you're interviewing candidates for a project manager's position and you need a really great one, you might check their rap sheets — and hope you find something. **Q 44234**

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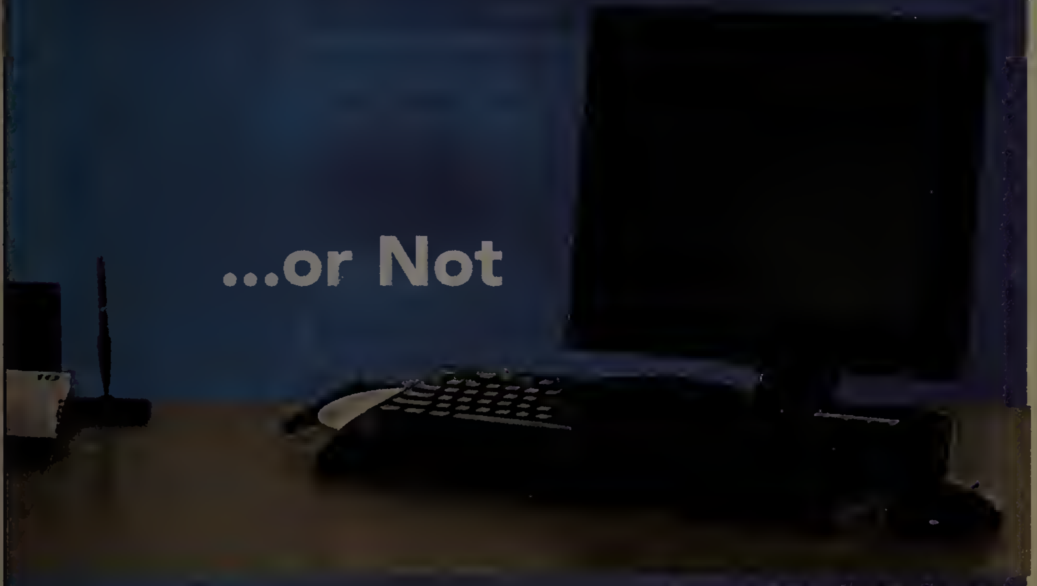

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IT Careers In Healthcare

There's a short list of high-impact information technology priorities for the healthcare industry – mobility, information security/privacy and point-of-information connectivity. Add to this list the eHealth Initiative, a nationwide effort mentioned in President Bush's State of the Union address in January, and every dollar spent on healthcare IT must have an impact.

The eHealth Initiative, according to Janet Marchibroda, executive director of the Foundation for eHealth Initiative, would create an interconnected electronic health information infrastructure – patient information available when and where it's needed to provide vital care and the ability for patients to use telemedicine when appropriate. The foundation is administering more than $4 million in federal grants for pilot community health programs based on data and information technologies that link hospitals, outpatient facilities, primary care and specialty care practices. The Health Information for Quality Improvement Act currently moving through Congress reinforces this effort, providing a loan program and other support for building the nationwide IT infrastructure and standardizing forms to facilitate exchange of information and data.

Marchibroda says that today just 5% of the nation's physicians use electronic health records. "We have seen an uptick" over the past 18 months, she reports. "I think that within the next five years, we will see almost half of the providers with such tools." The effort is getting a boost from federal funds on pilot projects and learning labs, the setting of standards and the use of IT and electronic data to improve quality and safety of patient care.

With a nationwide focus on healthcare providers switching to IT to improve quality and safety, there's some evidence that the hiring is ramping up. According to Betsy Hersher, a member of the Health Information Management Systems Society, the group currently has 14,000 members. Hersher, who recruits executives in the IT healthcare segment, says there are job openings throughout the spectrum – from entry level to more than 45 chief information/technology officer openings that currently exist in the healthcare industry. And, according to Hersher, pay for IT healthcare professionals is on par with other industries.

Sheldon I. Dorenfest, CEO of Sheldon I. Dorenfest & Associates in Chicago, says healthcare IT spending rose by 9.3% in 2003 to $23.6 billion. Dorenfest forecasts a 9% increase in IT spending for healthcare for at least the next three years, growing to $30.5 billion by the end of 2006. He has projected the most significant spending in Picture Archive Computer Systems (which digitize MRI, CAT and X-ray images) and Computerized Physician Order Entry Systems using mobile devices. "While healthcare IT system purchases outpace prior expectations," Dorenfest says, "there continues to be a growing work process problem within healthcare organizations. With this additional clinical systems buying, there is a possibility that work processes will deteriorate unless implementation approaches are improved. Significant emphasis must be placed on simplifying and improving work flow during the implementation of these new systems."

Among those leading the change within the industry is Linda L. Reino, chief technology officer for Universal Health Services Inc. "There's a lot of excitement about IT in healthcare for the future," she says. "Wireless is exploding, we have to address mobility of healthcare providers, and the use of browser-based technologies to make the systems more intuitive to reduce training. The faster and more efficient we can streamline patient condition information and disseminate it to be used by many – those are the most important things that the next generation of projects will involve." Reino says the turnover rate among clinical staff and the mobility issues are unique to healthcare, making these types of developments leading edge for IT professionals.

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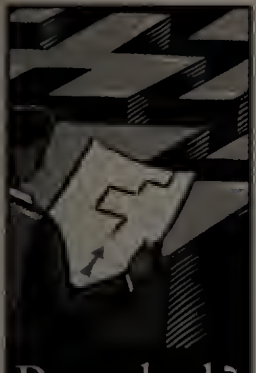

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Project Manager - Interface w/clients to understand & record bus requirements. Document bus requirements into functional requirements for projects written in C++, Java, COBOL, HTML, Visual Basic, & SQL in UNIX/Windows NT environments. Manage a group of such projects from conception to implementation. Ensure projects are delivered on time & w/in budget. Track projects by using MS Project, Oracle, & other Quality Control measurements including MS Excel, MS Word, & MS PowerPoint. Report project status on a regular basis to senior management. Manage availability of hardware & resources critical to projects. This is an entry-level project management position working under close supervision of Resources & SW Development Mgr. BS Comp Sci, Eng, or related field + working/theoretical knowledge of: UNIX/Windows NT; COBOL, Java, HTML, Visual Basic, SQL, C++; Oracle; & MS Word/Excel/Project/Powerpoint. $61K/yr. M-F. 8-5. Denver, CO. Must have proof of legal authority to work permanently in U.S. Application by resume only to Workforce Development Programs, PO Box 46547, Denver, CO 80202. Ref job# CO5067656.

Seismic Micro-Technology, Inc. (Houston, TX) is seeking Geosciences Software Engineer. 1 yr. exp. in using MFC and sampling, filtering, & spectral computation for signal processing. Send resume to 8584 Katy Fwy, #400, Houston, TX 77024. Attn: Manager of HR.

Operations Support Specialist (Bossier City, LA): Develops or modifies programs and support computer operation using VB, SQL, FoxPro, TCP/IP, LAN, WAN Protocols, IPX/SPX, Hubs, Switches, Proxy, Windows NT/2000 Linux Novel Netware. 1 yr. exp. and B.S. degree required. Send resume to A K Int'l, Inc. 2950 East Texas St., Ste 530, Bossier City, LA 71111 or 318-764-0429 (F), Attn: Mr. Aziz

Sr. Consultant needed by IT co. in Naperville, IL to provide consulting in business analysis, system s/ware design, project mgmt & application dvlpmt using s/ware such as Oracle & Matrix One. Must have Bach in Comp Tech. Engg & 1 yr exp in job offd or as IT Consultant. Respond to Eric Camplin, Piocon Technologies, 1952 McDowell Rd, Ste 104, Naperville, IL 60563. No calls

SW Dev Engineer - Assist in the design, development, troubleshooting, analysis, & delivery of software & systems solutions using SQL, PL/SQL, SQL *PLUS, Oracle database design/analysis, C, C++, Visual Basic, HTML, & Object Oriented Design & Analysis. Analyze processes & requirements. Identify solutions to fit business needs. Create requirements-based design plans. Participate in requirements review, preparation of estimates, code development, unit testing, & related release activities. Apply principles, theories, & concepts & use methodologies, tools, documentation processes, & test procedures to complete software projects on UNIX, NT, DOS, & Windows 95/98 operating systems. This is an entry-level position working under close supervision of the SW Dev Mgr. BS Comp Sci, Eng, or related field + working/theoretical knowledge of: QL, PL/SQL, SQL *PLUS; Oracle database design/analysis, C, C++, Visual Basic, HTML, Object Oriented Design & Analysis; & UNIX/NT, DOS, Windows 95/98 operating systems. $63K/yr. M-F. 8-5. Denver, CO. Must have proof of legal authority to work permanently in U.S. Application by resume only to Workforce Development Programs, PO Box 46547, Denver, CO 80202. Ref job#CO5067670.

Electrical/Firmware Engineer
Develop design test electrical & motion control systems integrated into electro optical systems. Work on Digital, Analog, & GUI design. Prepare docs. for Engineering & Manufacturing. Requires: MSEE or equivalent and 1 yr Experience in Motion control hardware software & systems design in automation industry with micro-controller Firmware, Cross Compilers, Emulators, CAD & Vision tools, comm. drivers and optical related instruments. Project management skills. Please submit resume with salary requirements to: H.R., Spectra-Physics OEM Services, P.O. Box 1112, Bellingham, MA 02019.

Computers- Assoc. Programmer /Analysts needed. Seeking qual. candidates possessing BS or equiv. and/or rel. work exp. Our company will accept additional academic educ. in lieu of req. exp. Duties include: Analyze & evaluate user requests to modify programs; Develop & document computer programs according to user specifications; Work with 3 of the following: C/C++, ASP, Oracle, Informix, HTML & Javascript. Knowledge of Aether's Packet Cluster Products a plus. Fwd. resume & ref. to: COMM-SYS, Inc., 33 Westfirst St., #100, Dayton, OH 45402.

Software Engineer to design, develop and implement commercial application software using C, C++, Assembly, Visual DSP++, Vantive, Clearcase, UNIX Shell Scripts and RTOS, as well as communication/network protocols including ATM/Frame Relay/IP under Windows and UNIX operating systems. Require: Master's degree in Computer Science, an Engineering discipline, or a closely related field with 2 yrs of exp in the job offered. Attn: Job SP.

Senior Software Engineer to design, develop, implement, test and enhance ERP, CRM and web-based application software using SAP R/3, ABAP 4, Java, JSP, Siebel and HTML on Windows NT platform; Responsible for data mapping, unit testing and system integration testing; Provide production support; Develop technical specifications; Create and generate customized reports; Provide training and technical support to end users. Require: Bachelor's degree in Computer Science, an Engineering discipline, or a closely related field with 5 yrs of progressively responsible exp in the job offered or as a Programmer/Systems Analyst (CRM/ERP). Attn: Job GM.

Extensive travel on assignment to various client sites within the U.S. is required. Competitive salary offered. Apply by resume to: Hiring Manager, Compuzard, Inc., 95 Mason Street, Suite 3, Berlin, NH 03570.

Systems Analyst
Analyze, design, dev., mgmt./delivery apps., web & dbase oriented tech. using knowl. of Vignette Bus. Integration Studio, Content integration connectors, etc. Must have Bachelors in Comp. Sci. or Comp. Eng. & two yrs. of exper. as Sys. Anal. or as Prog. Anal. w/ two yrs of prof. exp. w/ Java, HTML, XML, Oracle, Epicentric/VAP, JDBC, Servlets, Java Beans, JSP, Win 2000/XP, Weblogic, Apache, & IIS. Must be willing to travel &/or relocate frequently. $67,000/year, F/T, hrs vary. Send resumes to Pgh/Allegheny Cty. Careerlink,, Attn: CL Prog. Super., 425 6th Ave., Ste 2200, Pgh, PA 15219-1837. Ref. Job Order # WEB 390471.

Software Engineer/DSP sought by DSP Software/Hardware Company located in Irvine, CA. Bach degree or/equiv. in Software Eng. or/Electronic Eng. + 6 mos. DSP exp. Send resume to: H.R. Dept (REF: SC) 3DSP Corporation, 16271 Laguna Canyon Rd, #200, Irvine, CA 92618.

Full time Project Manager. (Multiple Openings). Responsibilities include: manage multi-tiered, Internet/Intranet/Client Server based multi-user, Re-engineering/Conversion applications projects throughout the United States; manage systems analysts, business analysts and support staff; audit applications quality to ensure adherence to Quality Management Systems (SEI-CMM Level 2 or above); manage implementation of applications; manage user acceptance tests and user training; and perform Capacity Planning for applications. Travel to client sites Monday-Friday. Must have a Master's Degree or foreign or educational equivalent in Computer Science, Engineering or a related field and three years of experience as a systems analyst or in a related occupation, or a Bachelor's Degree or foreign or educational equivalent in Computer Science, Engineering or a related field and five years of experience as a systems analyst or in a related occupation. If interested, submit resume in duplicate to:

Ms. Sandy Pruitt
NIIT (USA), Inc.
1050 Crown Pointe Parkway,
Suite 500
Atlanta, GA 30338

Seeking Reliability Engineer with strong knowledge of TL 9000 QMS (GR929 CORE) and RQMS to lead reliability assessments, life prediction, and qualification test planning for on-going, & next-gen. router products. Duties include reliability characterization (FMEA, RCA, & FTA); probabilistic modeling (Markov); sensitivity analysis; test programs (ALT/HALT); Fault Tolerant Designs; MTBF predictions & FRACAS; conducts SRE, DFR, Growth modeling, fault insertion testing, generation of DPM, AFRR & avail. metrics. Must have MS in Rel. & Quality Eng. or Reliability Eng. + 2 yrs rel. exp.; must be CRE, CQE. Send resume to D. Brown, Dir. HR, Avici Systems, Inc., 101 Billerica Ave., N. Billerica, MA 01862. Ref. RE04.

Radiant Soft Sol, Inc., a S/ware Consulting Co, seeks to fill following Multiple Openings in Arlington Hts, IL & unanticipated locs in US:Sr. Software Consultants (BS+3 yrs exp), Business/Systems/Programmer/QA Analysts (BS + 2yrs exp.), Database Analysts (BS+3yrs exp.), Network Analysts (BS+ 3yrs. exp.) & IT Managers (BS + 3yrs supervisory exp).Respond by resume to HR, 855 E. Golf Rd, #1125, Arlington Hts, IL 60005.

Software Engineers to design, develop and maintain various appls. using J2EE technologies, OOAD, Rational Rose, Java, XML, JavaScript, VBScript, HTML etc; perform requirements analysis, problem analysis, solution design, implementation and documentation on developed appls.; provide training and user support for the systems and related appls.; perform debugging and modifications on existing software. Require M.S. or foreign equiv. in CS/Math/Engineering (any branch) or related field. High salary, full time position. Some travel involved. Resumes: HR, Opal Soft, Inc. 3150 Almaden Expwy Ste 205, San Jose, CA 95118.

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Decru, Inc. is seeking a Data Storage International Business Development Director for Redwood City, CA. Candidate will establish OEM networks of electronic business data equipment resellers in US, Europe, Japan, China, Korea, Singapore, and Hong Kong using knowledge of: 1) local OEM management, product support plans, pricing, profit margins and discount rates; and 2) bug tracking, design change, RMA, and product quality management. Will negotiate agreements between manufacturer and OEMs regarding: 1) terms of minimum commitment, exclusivity, product quality policy, warranty, and 2) end user support; product development schedules; forecasting; product launch strategy; and RMA. Will support sales channels in Asia using knowledge of: pricing; localization; local electronic/radiation regulations; marketing; product launch and technology partnering strategy; sales and technical training; PR activities; direct/indirect sales management; and production/sales forecasting. To perform duties will use knowledge of: Unix; Ethernet; TCP/IP; SCSI; SNMP; MIB; VPN; PKI; Kerberos; SAN; NAS; computer bus; device drives and command line interface. Will use knowledge of co-marketing and distribution agreements; and business knowledge of finance and brand strategy to develop marketing and sales strategy. Please email resumes to:
talent@decru.com.

PROGRAMMER/ANALYST

Analyze, design, develop, test, implement and maintain mainframe and distributed computer systems using COBOL, CICS, REXX, PL/I, Focus, TSO/ISPF, IN-Sync, VSAM, DB2, IMS, JCL, Stored Procedures, MQ Series, XML, Mercator in mainframe and Windows environments. 8:00 a.m. to 5:00 p.m., $55,000/year, Bachelor's degree or equivalent in Computer Science or Engineering or related. Five years of experience in job offered or related occupation. Must have proof of legal authority to work in the United States. Send your resume to the Iowa Workforce Center, 590 Iowa Street Dubuque, IA 52004-0757. Please refer to Job Order #IA1101837. Employer paid advertisement.

Software Engineers needed by IT consulting firm in Keene, NH to work at various client locations throughout USA. Seeking qual. candidates possessing BS and rel. work exp. of 2 yrs working w/ software system analysis, database design, & OLAP tech. (exp. can be combined). Work w/ Rational Rose, UML, Rambaugh, Use Cases, MSVisio, BPMS, BPO, & CRM. Send res., ref., & sal. req. respond to HRD, Infowave Systems, 39 Central Square, Suite 201A, Keene, NH 03431.

Systems Analyst
Entry-level Systems Analyst, must know desktop deployment and computer network, able to analyze manufacturing data using Crystal Report and upgrade Factory Works application from 2.3A to 2.5. Perform custom and web programming using Visual Basic and Visual Basic Script. BS Computer Science/Computer Engineering Required, no experienced necessary, FT position in Torrance, CA. Submit resume to 23155 Kashiwa Court, Torrance, CA 90505 or fax 310-530-2679

SENIOR SYSTEMS ENGINEER

Provide direct, end-user technical spprt. for field marketing activities in order to ensure customer satisfaction with proprietary software & networking prdcts. in the telecomm. & service prvdr. industry. Work with territory account mgrs. in formulation & execution of business plans to exceed sales quotas & satisfaction levels for mult-million dollar accounts with more than 700 telecomm. switches nationwide. Maintain customer relationships with end users & channel partners in order to enhance the company's ability to sell prodcts. Manage & analyze customer evals. in order to ensure that objectives have been clearly defined & met. Manage customer support in transition from pre-sales to post-sales. Provide on-going tech. & marketing feedback to corporate sales orgs. Five yrs. experience in offered position or as Sales, Marketing, or Telecomm. Engr. required. Must have in-depth knwldge. of Asynchronous Tnsfr. Mode ("ATM") & other high-speed networking tchnlgy. standards, applications, & sofware. Must know Internet Protocol ("IP") & Private Network-to-Network Interface ("PNNI") for ATM fiber obtics software prgms; & Public Telephone & Telecomm. ("PTT") ntwrks. & Local Area Nework ("LAN") technologies. Must be able to design transparent LAN services & telephony prvte. lines in a converged public network. High mobility/extensive travel required. 40 hrs/wk, 8 am - 5 pm. $75,000/yr. Qualified applicants report/submit resume to: Site Mgr., Armstrong County CareerLink, 1270 North Water Street, PO Box 759, Kittanning, PA 16201-0759. Refer to Job Order Number WEB390494.

Jaypar, Inc.
Seeking IT Professionals

· Programmers/Analysts
· Software Engineers

Experience and skills in most of the following areas are required:

Java, J2EE, EJB, .NET, ASP, VB, VC++, XML, BroadVision, WebLogic, Sun Enterprise/Ultra/Sparc, PL/SQL, Oracle, Peoplesoft and SAP Applications.

B.S., M.S. or MCA or higher education with good understanding of programming, web technologies and databases are essential. At least one year requirement of prior industry experience is a must. Excellent communication and presentation skills a must. Applicant must be open to frequent travel and relocation. Send resumes to Attn: Human Resources at 3730 Garand Road, Ellicott City, MD 21042. NO PHONE CALLS PLEASE.

SENIOR SOFTWARE ENGINEER to design, develop, maintain and implement software for business applications using Cool:Gen, Report Composer, COBOL, JCL, CICS, MVS, MQ Series, VC++, DB2 and Oracle on Mainframe, Windows NT/XP and UNIX platforms. Require: Bachelor's degree in Computer Science/Engineering, Business Administration, or a closely related field with 5 yrs of progressively responsible exp in the job offered or as a Systems Analyst. Extensive travel on assignment to various client sites within the U.S. is required. Competitive salary offered. Apply by resume to: Deena Galloway, Global Software Development Services, Inc., 1110 Northchase Pkwy, Ste 250, Marietta, GA 30067; Attn: Job MG.

Hexaware Technologies, Inc. has immediate, full-time opportunities for:

Software Engineers. To research, design and develop computer software systems, in conjunction with hardware product development, applying principles and techniques of computer science, engineering and mathematical analysis, formulate and design software system, will use a variety of software tools including; PowerBuilder, TPF, Sybase, Perl, Solaris, Java, Corba. Master's degree or foreign edu. equiv. of same and 1yr exp. required

Systems Analyst to analyze user requirements, procedures and problems to automate processing or to improve existing computer system: review computer system capabilities study existing information processing systems, develop new systems to improve production will use a variety of software tools including; Apache, Java, JDBC Oracle, PL/SQL, Servlets, Rational Rose. Bachelor's degree or foreign edu. equiv. of same and 1yr exp. required

Programmer Analysts to plan, develop, test and document computer programs, applying knowledge of programming techniques and computer systems: evaluate user request for new or modified program, formulate plan outlining steps required to develop program, using structured analysis and design. Design new code/program or replace, delete, or modify existing code/program to meet client needs, will use a variety of software tools including; Cobol, C, Fortran, Visual Basic, Oracle, Solaris. Bachelor's degree or foreign edu. equiv. of same and 1yr exp. required

Technical Sales Managers to direct/manage sales of the company's IT consulting services, interact with clients to determine technical specifications and oversee initiation and development of offshore projects. Master's degree in Business Administration or Management plus 1 year of experience in the IT industry. Experience must have included business development initiatives and off-shore project execution in the fields of ERP (SAP/PeopleSoft Applications) or financial services or insurance services or transportation industry.

For some positions, we will also accept the degree equivalent in edu. and exp. Travel and/or relocation required. Send confidential résumé, salary requirements and position applying for to: Hexaware Technologies, Inc. Attn: HR, 4343 Commerce Court, Suite 618, Lisle, IL 60532.

SAP Labs currently has opportunities available in Texas in Software Development. Candidate must be able to develop, construct, & test applications using ABAP in the R/3 environment. Project integration of operations with Financial aspect of system for IS Oil & Gas Upstream development. Perform moderately non-complex to moderately-complex product design, system analyst, & programming activities, which may req. research & analyst; perform non-complex to moderately-complex bug verification, release testing, & beta support for assigned products; & utilize knowledge of R/3 ABAP & any software languages such as COBOL & SOL. Master's deg or equiv. in Comp. Sci., Mathematics, Chem. Engg., or related field of study In the alternative, we will accept a B.S. degree or foreign equivalent + 5 yrs of post baccalaureate progressive professional exp as a Software Developer, Programmer Analyst, Consultant, or related IT position Submit resumes to: http://www.sap.com/company/saplabs/northamerica/jobs/ Under employment opportunities, please submit your resume directly for Developer III, position number 000000137 SAP www.saplabs.com. THE BEST-RUN E-BUSINESSES RUN SAP. EOE

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H-1B Freeze

last month said that 43,500 H-1B applications, either approved or pending, had already been counted against the cap. The number of visas generally available for the current fiscal year was further reduced by a free-trade agreement that specifically allocated 6,800 visas for use by workers from Singapore and Chile.

The H-1B visa cap wasn't reached in any of the past three years, when approved applications fell well short of the annual 195,000 visa limit. But the lower cap could force companies to alter their hiring plans.

Cisco Systems Inc. has hired H-1B workers in the past but "we're not hiring right now," said John Earnhardt, a Cisco spokesman. He noted that as for as many Silicon Valley employers are concerned, "there is a lot of untapped talent in the U.S. right now" because of IT workforce reductions.

> **It may result in some employers looking at résumés that they may have disregarded the first time.**
>
> **VIC GOEL,** IMMIGRATION ATTORNEY IN GREENBELT, MD.

"For an employer that wants to hire a foreign national for a given project, they won't be able to do it until October," said Vic Goel, an immigration attorney in Greenbelt, Md.

Goel said the reduced cap may prompt some companies to send more work offshore, and it could hinder their ability to hire academically superior foreign students graduating from U.S. universities.But the reduced cap may also improve job prospects for U.S. citizens, he said. "If you are in a situation where you are an out-of-work American, it may result in some employers looking at résumés that they may have disregarded the first time" because those applicants didn't have the exact skill sets being sought, Goel said.

Harris Miller, president of the Information Technology Association of America in Arlington, Va., said lobbyists are continuing discussions with members of Congress about raising the cap this year. But he said it's too early to tell whether those efforts will succeed.

Miller said he sees a rising protectionist attitude that may make it difficult. "Right now, the mentality among a number of members of Congress is what I would call 'fortress America,' " he said.

Unemployment among computer engineers in the last quarter of 2003 was 9%, said Ron Hira, chairman of the IEEE-USA Career and Workforce Policy Committee. He said there's no way of knowing with certainty what impact the reduced H-1B visa cap will have on U.S. high-tech workers seeking jobs.

But Hira, an assistant professor of public policy at the Rochester Institute of Technology in New York, said the H-1B program is imperfect. He noted that his committee's analysis of data on employers' use of the visa program shows that some companies are paying H-1B visa holders wages that are below what U.S. workers would receive.

The H-1B visa "is supposed to work as a last resort rather than a first choice," he said. "And I'm not sure it's working that way anymore." **44777**

MORE H-1B COVERAGE

For additional news about H-1B visa issues, go to our special coverage page:

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Bill Would Force Disclosure of Offshore Plans

WASHINGTON

Companies that plan to move IT jobs overseas may be required to disclose layoff plans three months in advance, under a bill introduced last week by Senate Minority Leader Tom Daschle (D-S.D.).

Daschle said he was responding to a Bush administration argument put forth by Gregory Mankiw, chairman of the White House Council of Economic Advisors, defending a free-trade approach to the offshoring of service jobs, including IT jobs.

In testimony last week before the Senate's Joint Economic Committee, Mankiw argued that offshore outsourcing lowers business costs and allows a company "to devote its resources to more productive purposes."

Citing a loss of 2.9 million private-sector jobs since January 2001, Daschle said "there is nothing good about offshoring."

High-tech union leaders praised the legislation, maintaining that public disclosure of offshoring may discourage the practice. Moreover, once state and local governments become aware of an employer's offshore plans, "there can be a lot of pressure points applied to companies moving work overseas," such as revoking tax breaks, said Marcus Courtney, president of the Seattle-based Washington Alliance of Technology Workers.

But there's little that legislation can do to deter companies motivated by "solid business reasons" from offshoring IT work, said Stan Lepeak, an analyst at Meta Group Inc. Companies can avoid a disclosure rule by outsourcing jobs to U.S. vendors and letting the vendors shift the jobs overseas, said Lepeak.

– Patrick Thibodeau

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Business Apps

that they're weighing the idea of switching vendors.

Quaker Chemical Corp. in Conshohocken, Pa., is among the dissatisfied users. "For the last three years, we've seen [maintenance and upgrade] price increases and have received no added benefits for this added cost," said CIO Irving Tyler.

22% are considering switching to more accommodating software vendors.

Quaker uses applications developed by J.D. Edwards & Co., which was bought last year by PeopleSoft Inc. Tyler said Quaker plans to cut costs by stabilizing its ERP system and relying more on internal staffers to support it — a move that's being aided by the soft economy, which has made it easier to hire high-quality IT workers. Quaker officials are also considering a plan to hold off on installing future software releases unless business needs "change dramatically," he said.

35% plan to try to renegotiate their application maintenance contracts.

Tyler declined to point a finger at PeopleSoft or any other vendor, nor would he disclose specific details about the software costs the chemical maker is being asked to bear. But, he said, "if the vendor wants more fees for the same service and the same software, then that is not a good deal."

Richard Scheerer, vice president of IT at The Clarks Companies, North America, in Newton Upper Falls, Mass., said some software vendors have tried to force the shoemaker into expensive upgrades without considering either the costs or potential benefits of the projects.

Clarks uses applications like i2 Technologies Inc.'s supply chain management software. But Scheerer also declined to single out any vendors, saying the problem "exists across the board." He added that Clarks is "a smaller shop with several large packages," which limits its ability to handle maintenance and support internally.

Application vendors have been increasing maintenance costs and pushing existing users to do more upgrades to compensate for drop-offs in new software sales during the past few years, Shepherd said. Some survey respondents said they have seen their annual software maintenance costs increase by as much as 15% to 25% over the past five years and have been unable to get vendors to defer fees on unused licenses, he noted.

12% plan to stop paying maintenance fees altogether.

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Shepherd added that nearly one quarter of those surveyed said they were dissatisfied with upgrades they have done because the new features didn't justify the costs. In addition, 22% indicated that they don't plan to do any upgrades in the next six months, a number that Shepherd said should be "chilling" for vendors looking to boost their revenue.

IT managers should purchase end-user licenses in small increments to avoid buying more than they need in the short term, Shepherd recommended. Users also should negotiate harder on maintenance terms than on license costs, he said. **44755**

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FRANK HAYES ▪ FRANKLY SPEAKING

AT&T Trips Up SCO

TODAY'S THE DAY. On Nov. 18, 2003, The SCO Group announced that it would sue some corporate Linux user within 90 days. That put the deadline at Monday, Feb. 16. Has SCO sued? I don't know — I'm writing this a few days before that deadline, and my time machine is in the shop, so you'll have to go to *Computerworld.com* for the latest news.

But regardless of whether SCO has already sued a user or is just running a little behind schedule, winning any Linux lawsuits may have just gotten a lot harder for SCO.

Who said so? AT&T — in 1985.

Here's what happened: On Friday, Feb. 6, at a court hearing in SCO's lawsuit against IBM, SCO laid out its clearest explanation yet of why it believes it owns source code that's in Linux.

SCO argued that it doesn't own just the Unix source code originally written by AT&T. SCO said it also owns all additions to Unix that were ever made by companies that licensed Unix source code — including IBM, Hewlett-Packard, Sun Microsystems and even Microsoft.

Those additions are "derivative works" of Unix. And the Unix licenses that AT&T issued said derivative works are to be treated "as part of the original software product."

So since IBM developed a file system and added code for it to AIX, IBM's version of Unix, SCO argued that the code now belongs to SCO. And since IBM later donated that IBM-developed file-system code to Linux, it's in Linux without SCO's permission.

As a result of such donations, there are millions of lines of vendor-contributed, SCO-owned code in Linux. At least that's SCO's interpretation of the Unix license.

Not surprisingly, IBM disagrees. So does Novell, which bought the Unix source code from AT&T and sold the Unix business to SCO in 1995.

IBM believes that it still owns any code it added to the AT&T Unix code for AIX. So IBM can remove and reuse that code in its own products, or even give it away to Linux. That's how "derivative works" function under copyright law, though the Unix license is a contract.

Who's right? Looks like a nasty he said/she said court fight over what that derivative-works clause means, doesn't it?

But on the same day SCO's lawyer was explaining his legal theory in court, Novell was faxing something to SCO's offices.

It was a copy of "$ echo," a newsletter published by AT&T in 1985 for its Unix licensees. In it, AT&T clarified what that derivative-works clause in the Unix license meant. (Apparently, there was confusion about it even then.)

AT&T said it wanted "to assure licensees that AT&T will claim no ownership in the software that they developed — only the portion of the software developed by AT&T."

In other words, AT&T never intended for Unix licensees to give up ownership of code they added to their versions of Unix. That was never part of the deal. And the deal AT&T cut is the one SCO has to live with — even 19 years later. That's how contracts work.

Of the million lines of Linux code that SCO claims IBM hijacked from Unix, SCO hasn't identified a single line that came from the original Unix source code. It was all created by IBM. According to AT&T in 1985, that means it's IBM's to keep — or give away. And SCO's theory that it owns Linux code appears to be kaput.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Of course, AT&T's blast from the past won't bring the gavel down on SCO's suits tomorrow. IBM, Red Hat and Novell are already in court with SCO. If a corporate Linux user joins them, even with good lawyers and help paying for them, any suit is likely to be painful and long.

But it helps a lot to have the company that wrote those Unix licenses on their side. Even if it's AT&T in 1985. Because 1985 just may mark the end of SCO's lawsuits — and the beginning of Linux's future. **44733**

SHARK TANK

Just Don't Do It

This small engineering company gets hit with the Mydoom virus, which arrives with a phony "From" line. "Most of the users, especially clerical and technical, are pretty savvy and don't open suspicious e-mails," says sysadmin pilot fish. But one engineer feels a need to explain how his PC was infected: "I got an e-mail from myself, so I opened it." But you must have known you didn't send yourself an e-mail, fish points out. Why open it? Engineer: "I figured since it was from me it had to be OK."

Don't Touch

This expensive new PC-connected whiteboard should be used only with these special whiteboard markers, never the permanent kind, the installer tells the admin in charge of the meeting room. So she puts up a sign: "Do not write on this board." "Three years later, the new whiteboard has never been used," groans IT pilot fish. "And people are questioning why it was bought if you're not allowed to write on it."

Don't Flip

This mainframe keeps crashing with shorted-out circuit boards, and the vendor and IT management are accusing each other of being responsible for the problem. But it always happens on second shift, so after discussing it with the second-shift operator, management sets up a video camera to look for clues. "On videotape, the operator is seen flipping something into the CPU," says a pilot fish on the scene. "Confronted with the tape, the operator admits that when he wants free time on his shift, he flips a penny into the vents in the top of the machine. After his termination, the problem never recurs."

Don't Call

Why is the IT department's main phone set to "Do Not Disturb"? user asks pilot fish. Fish isn't sure, but when he calls about a different matter and gets through, he asks in passing why the phone's display showed DND at first. Sighs fish, "Apparently it was because a lot of people were calling."

Don't Ask

It's 1980, and this data-processing service bureau runs the accounting work for a local department store. "On occasion, the client would ask for slightly different versions of the monthly reports, which always required programming changes," says a pilot fish at the service bureau. "After one trying week of several variations, I reminded the client that her latest request would incur a programming charge. Her response: 'Instead of changing the program, couldn't you just tell the computer what to do?' "

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Comparison is based on a single IBM pSeries 690 Server versus a grid of small servers. As of December 17, 2003: Oracle Database 10g: Sixteen-node HP Integrity rx5670 server cluster, each with 4 Intel® Itanium® 2 1.5 GHz processors, 1,184,893.38 tpmC, $5.52/tpmC, available April 30, 2004. IBM DB2 UDB 8.1: IBM eServer pSeries 690, POWER4 1.7 GHz, 763,898.39 tpmC, $8.25/tpmC, available November 8, 2003. Source: Transaction Processing Council (TPC), www.tpc.org. Per processor prices are based on the TPC-C executive summary for the respective results listed above.
Note: 'Never breaks' indicates that when a server goes down, your system keeps on running.

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